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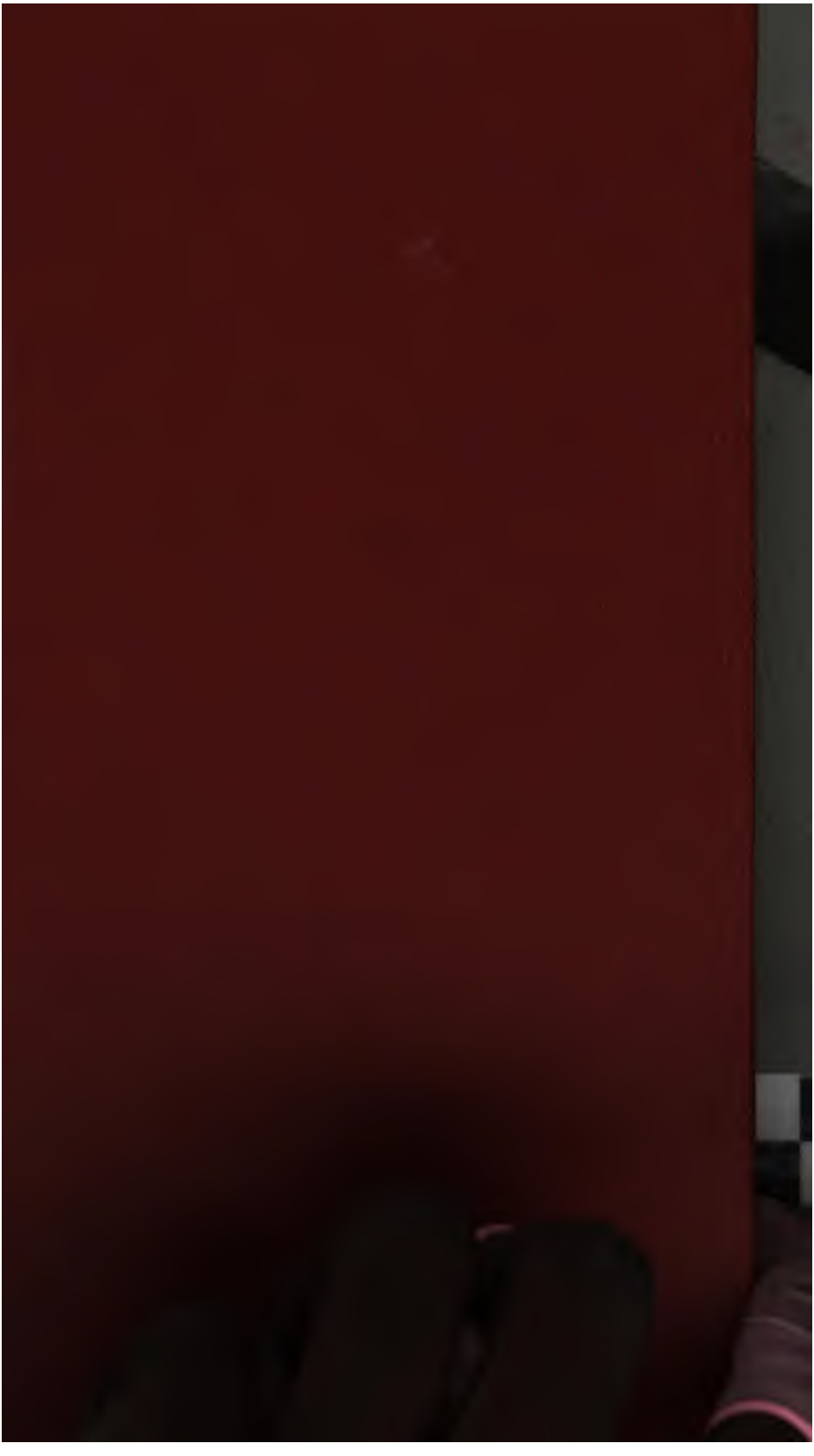

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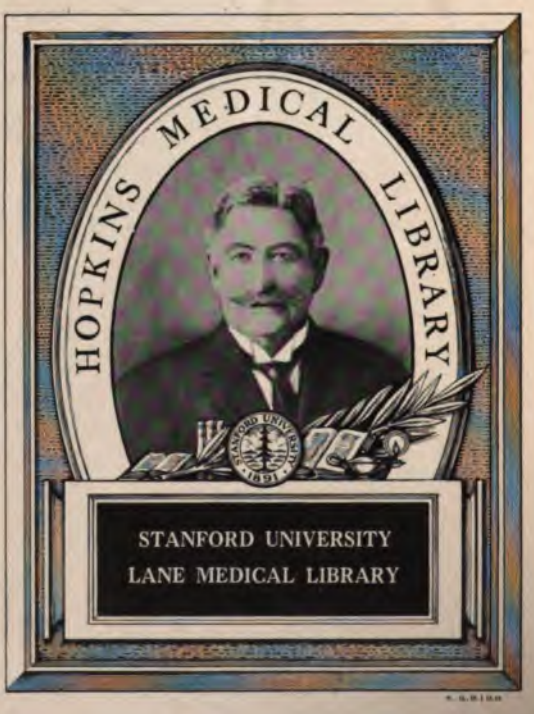
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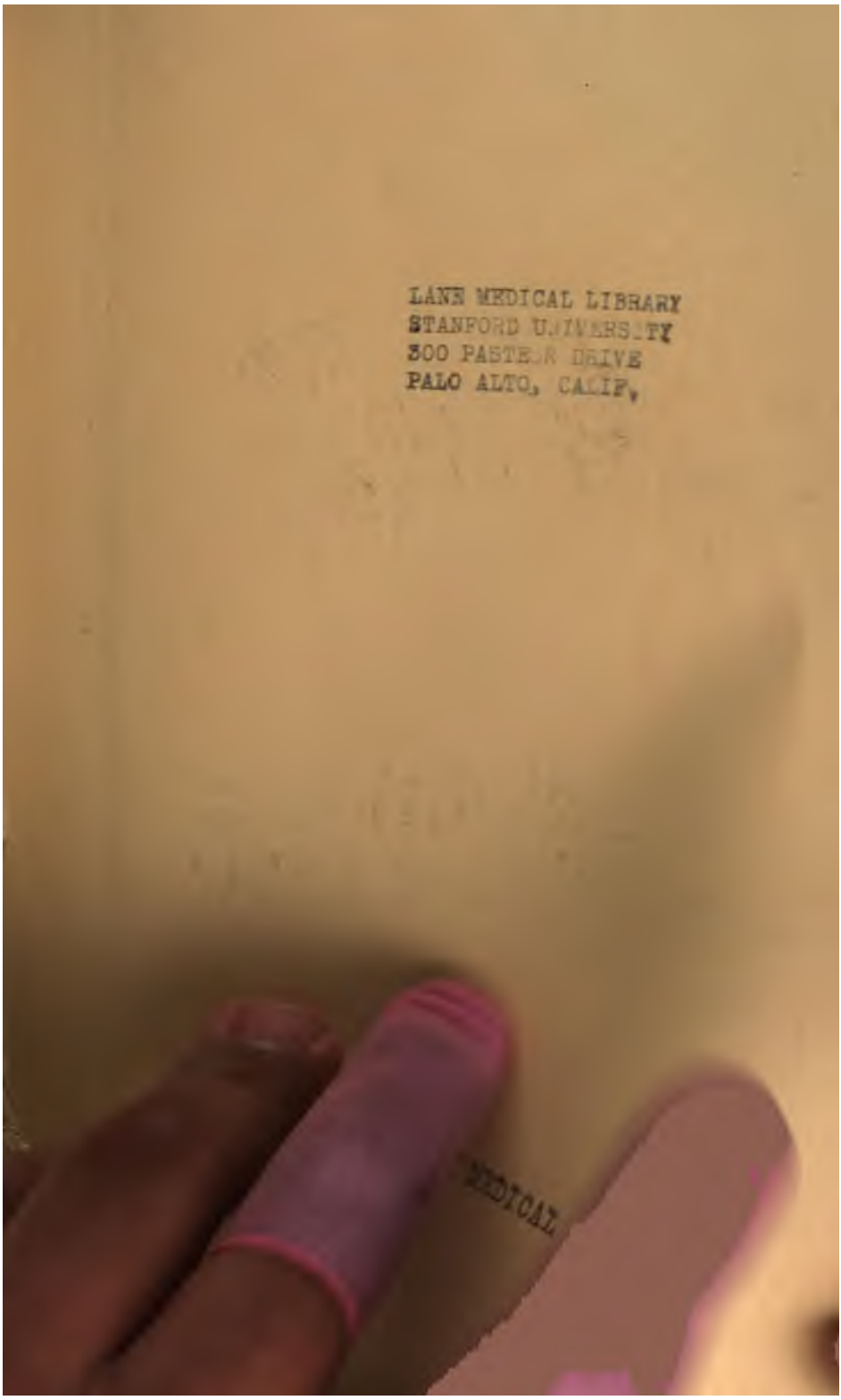

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INTRODUCTORY ADDRESS

DELIVERED AT THE

OPENING OF THE COURSE ON

PHYSIOLOGY,

FOR THE SESSION OF 1861-2,

IN THE

Medical Department of the University of the Pacific,

AT

SAN FRANCISCO, CALIFORNIA, NOVEMBER 4th, 1861.

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BY DR. L. C. LANE,

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SAN FRANCISCO:

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1861.

Professor L. C. LANE:—

Dear Sir: Your able and beautiful address, delivered Nov. 4th, as an introductory to the course on Physiology for 1861–2, has excited the admiration of all the members of your class, and, at a meeting of the same, the undersigned were appointed a committee to address you requesting the favor of the copy for publication in pamphlet form, in order that it may be more widely disseminated than could otherwise be the case. By conferring this favor you will greatly oblige each and all of the students composing the Medical Class of the University of the Pacific.

Respectfully, your obedient servants,

CHAS. E. HOLBROOK,
JOHN E. KUNKLER. } *Committee.*
WM. C. JONES,

San Francisco, Cal., Nov. 6, 1861.

SAN FRANCISCO, *November* 6, 1861.

GENTLEMEN:— Your note, soliciting a copy for publication of my introductory lecture, delivered on the 4th inst., at the opening of my course on Physiology, has been received; in reply, allow me to say that a copy of the same is at your disposition, and, at the same time, I beg leave to tender you my thanks for the honor which is thus unexpectedly extended to my first essay as a lecturer upon this noble department of medicine — the science of Physiology.

I am, very respectfully,

Your obedient servant,

L. C. LANE, M. D.,

Professor of Physiology, Med. Dep.
of the University of the Pacific.

Messrs. HOLBROOK, KUNKLER and JONES,
Committee in behalf of the Medical Class of the session of 1861-2.

ADDRESS.

GENTLEMEN STUDENTS:

The science of Physiology, in which I shall give you instruction during the ensuing course of this institution, is both interesting and important; considered in these respects, there is no department of the study of medicine that possesses higher rank. As evidence of its importance, we may state, in the outset, that without an accurate knowledge of many of its principles, no one would ever be able to arrive at eminence either in the practice of medicine or surgery. It teaches and sets forth the laws which govern the body in health; without a knowledge of these laws, it is evident that it would be impossible to judiciously discriminate disease, which is but a deviation from them, and the ushering in of an abnormal condition of the body. Hence its importance in the practice of medicine. So, too, without a knowledge of those principles which obtain in the reparation of parts—which principles are but the laws of Physiology in a modified form—how soon would operative surgery become lost in a labyrinth of obscurity, profound and inextricable? So great is its influence in this respect, that within a few years past the science of surgery is assuming an entirely different character from that which it formerly had. Through the lights and aids which physiological observation and vivisection have furnished us, surgery has assumed a far more conservative type. In modern times, it has been learned that almost all the tissues of the body may be reformed when lost through disease or accident. This is eminently so, in reference to bone. The discovery of this fact has had a great influence upon operative surgery. Limbs which were once sacrificed by amputation, are now preserved to the patient. And this circumstance, which is due to the physiological

fact that bone, muscle, ligament, and even joints themselves, when destroyed, may, in a great measure, be reproduced according to their original type, will prove of infinite good to humanity. The glories which have been won by the catling and saw have passed; they are wholly eclipsed by the far greater triumphs already, and yet to be, won by the conservative chisel, and scalpel. The achievements of the modern surgeon in the preservation of diseased limbs, should be reckoned among the most splendid triumphs of our period, compared with which the *éclat* which attached to the former methods of mutilation sinks into insignificance.

Every department of medicine is interesting. Indeed, so high did the healing art stand among the ancients, that they could not believe it a human invention, but they referred its origin to the gods. The last bequest of the immortal Socrates was a sacrifice to Esculapius. Yet the science of that period was infinitely limited, compared with its modern developments; and in none of the departments of medicine have greater advances been made than in the one we have under consideration. The department of Physiology now, of itself, stands as a vast colossal science, grand in its dimensions, and with so much that is strange and marvelous in it, that some of its enthusiastic admirers have applied to it the titles of the "*soul of medicine*," its "*poetry*," its "*flower-garden.*" Notwithstanding these titles, borrowed from fancy and enthusiasm, it presents enough of stern material and that class of things called *matter-of-fact*, to give it an abiding place quite out of the sphere of romance, and as a study, for a thorough comprehension of all its principles, severe, rigorous, and close application will be required.

So much importance of late has attached itself to this branch of science, that some of its simple and leading principles have been incorporated in school books, designed for popular instruction. If then a knowledge of Physiology is requisite to the young lady, in order to give elegance and completeness to her education, of how much higher importance must they be to you, prospective practitioners of medicine, to whom the duty will be assigned of alleviating disease in its protean forms, so numerous in fact, that, far outnumbering the Homeric hosts;

> "To count them all would need a thousand tongues;
> A throat of brass, and adamantine lungs."

It is your especial province, privilege and duty, to study the countless strange and wondrous laws which govern the human body. This body is more varied and complicated in its structure than any machine that art has ever devised. In it, the Theist sees the evidences of creative wisdom; in the contemplation of the form possessed by this microcosm, —the mere imitation of which has given a fame ever-during to Raphael and Michael Angelo,—and in view of the miracles which are constantly being performed in the maintenance of the living organism, the Atheist is involved in perplexity, and doubts whether fortuitous action can account for such a combination of wonders.

It is to explain the laws which control this marvelous piece of mechanism, that my efforts during the pending course, shall be devoted. Though often our inquiries may conduct us

"Through dark and devious paths of speculation wild,"

yet at all times, we will find something valuable along the wayside, and however rugged and thorny our path may be, still, ever and anon, our labors will be crowned by the discovery of some flower of truth, which, though it may not have the grandeur and gorgeousness of a Victoria Regia, nor the tropical luxuriance of the elegant Urania, still, amaranth-like, its tints will be more perennial in nature. In studying the object of digestion, in which the crude materials of the external world are so metamorphised as to become part of our living bodies, or in studying the mysteries within the cranium,

"The dome of thought and palace of the soul,"

we shall meet things as wondrous and extraordinary as can be found in any domain of nature. The brain, with its motor-force, its power of feeling, its coördinating faculty, its connection with the thinking principle, with the immaterial, imperishable *I*, presents a field for greater admiration and wonder than do all the orbs which glitter in the evening sky. As a piece of superior mechanism may be mentioned the eye, of which the workmanship is so exquisite, and the adaptation of its various parts to the purposes of vision are so complete, that no device of art can be compared with it; and it was only by having the eye as a model of reference, in which the tendency of light to

undergo decomposition in passing through a lenticular apparatus is counteracted, that Euler, the illustrious mathematician, found means to solve the problem of achromatism, which, by Newton, had been regarded as insusceptible of solution. And again, so great is the design exhibited in the structure of the human hand, that Bell considers that it alone affords proof of a divine author, and for his capital treatise on this subject, he won one of the "Bridgewater Prizes."

Hence, from what has been said it is manifest, though our department may be abstruse and dry at times, still, in the details of the "strange, eventful scenes" in which the living organism figures, from its primitive state as a microscopic cell through its varied stages of growth and ultimate decay and death, there is enough to requite the fullest longings for admiration and marvel. The struggle between life and death of which our world is the constant scene, is a drama of deep and momentous import to any one, but preëminently so to him who is conversant with the laws which govern them. To the medical scholar who comprehends all the laws which control the living organism, who sees and understands this vital fabric in all its varied changes, from its primordial commencement as an infinitely minute cell, a mere *macula germinativa* or germinal spot, then its embryonic and fœtal life, then its transition from aqueous to aerial existence, this monument of life has a thousand things more wondrous interwoven in its history than had the Memnonian of old, and its contemplation should enkindle in the student a profounder admiration than could be awakened by a view of the Pyramids, the broken remains of the Parthenon or Karnak, or any other architectural wonder of the past.

It has been argued as an objection against Physiology, that it is beset with too many theories and hypotheses, and that, upon the whole, it furnishes little that can be placed under the head of absolute and positive fact. Now, if hypothesis were to be wholly discarded in the establishment of a science, then some of the prominent departments of knowledge would have to be abandoned, for they rest on scarcely any other basis than theory and conjecture. This is especially the case in respect to geology; divest this science of the substratum of theory which lies at its foundation, and this grand fabric, the glory and boast of the

present century, would sink into insignificance. Yet so evident are the results which have followed the adoption of certain hypotheses in geology, and so wholly convincing to those who will thoroughly examine them, that this science has almost obtained a place as enduring in the field of knowledge as that occupied by pure mathematics. The same is now to some extent, and must eventually be entirely, the case in Physiology. Those theories which are at present employed for the illustration of its truths, may be compared to so many scaling ladders to the citadel into which we are seeking entrance, and which, when they have once fulfilled their purpose, may be dispensed with. So remarkably ingenious, however, have been some of those theories, that they still survive as monuments of the shrewdness of their inventors, though the idea imbodied in them has ultimately proved to be erroneous. This may be said to be the case in respect to the hypotheses invented by Liebig and Mulder for explaining the transition from venous to arterial blood.

Our science has engaged and occupied the attention of the illustrious and learned of all ages. In far-off antiquity, where the first faint beams of science are dimly perceived struggling with the clouds of ignorance which enshrouded the human mind in the earlier periods of human society, our science was the first to claim attention. Soon after Homer had composed his immortal verse detailing the woes that befel Greece, in consequence of the wrath of Achilles, and the dangers and adventures of the "toil-worn" Ulysses, in his homeward voyage from Troy to Ithaca, there arose a new light in Greece, whose mind being deeply imbued with the truth of the sentiment,

"*Felix qui causas rerum cognoscere potest,*"

devoted himself to the quiet pursuits of philosophy, and gave an impulse to philosophical research which continued for centuries afterwards. This was Aristotle. Among the subjects to which Aristotle gave special attention was that of the phenomena exhibited by living beings. Availing himself of the aids furnished by dissection, he strove to enter the penetralia of organized beings, and thereby penetrate the hitherto sealed arcana of life. It is surprising how many truths Aristotle brought to light. The experience of modern times has indeed, found that certain

things which he advanced were erroneous. This is not at all to be wondered at, when we take into account the profound ignorance which at his time had enshrouded the whole subject of animal life. Greatly to his credit, however, be it said, that certain ideas which he advanced, which were doubted by subsequent examiners, have, on more mature research, been found to be correct. This is true in respect to certain of his assertions concerning generation among the Crustacea.

Among its cultivators of the present time, Physiology ranks some of the most eminent minds of the day, both in Europe as well as in our own country; on this side of the Atlantic, it is with pleasure that we refer to such names as Dunglison, Paine, Leidy, and Dalton. Dalton is, perhaps, to-day in advance of all those engaged in physiological research, on this continent. The correctness with which he has studied the nervous system, and the mysterious subject of generation, augurs well for much new light on this hitherto but partially understood subject. Adopting vivisection as a lamp for his guidence in the daedalian mazes of the nervous system, he is compelling the vagus to reveal some of its complicated functions, as well as some of the other cranial nerves whose office has hitherto been involved in doubt.

In England, the names of Carpenter, Paget, Brown-Séquard, are models for emulation in this department of medicine. Crossing the channel, in France the famous Milne-Edwards, noted for his many classical works on this subject, as well as the distinguished Longet, and the venerable Chevreul, are busily engaged in Physological research. Indeed, Chevreul, though a septuagenarian, seems still as devoted to his chemico-physiological studies as though he were not satisfied that his researches in regard to the harmony of colors, and his discovery of oleine, stearine and margarine would not enbalm his memory among the never to be forgotten illustrious names which are treasured up in the imperishable archives of medicine.

Germany stands preëminently high in medical scholarship; and I am safe in saying that there we may find to-day, a greater number of devoted scholars engaged in solving the hitherto unexplained questions of Physiology, than in any other part of the world. The Teutonic character is eminently fitted for patient investigation. The Ger-

man investigator can labor for weeks, or even months, in the examination of a single subject, never once becoming tired or forsaking it, until he has thoroughly acquainted himself with every feature of the subject, and everything else that can have a bearing upon it. This method of investigation is difficult for the American student, accustomed, as our people are, to do everything with telegraphic velocity. Still, the Teutonic method is the proper one to lead to ultimate success, and it is to be hoped that it may be adopted more and more by the American scholar. A union of Teutonic patience with the practical element of our countrymen, would, if adopted in literary research, soon yield a rich harvest of scientific discovery.

The principles of Physiology are interesting on account of their perpetuity and unchangeableness; they remain to-day, and in future, constant and fixed as they were a thousand years ago. Similiar to the Draconian laws, they are engraven in blood, though unlike them in brevity of existence, their duration is coëval with organized life. Though laws, customs, manners, tastes, and language, together with the objects and pursuits of human ambition are ever changing, still the laws which control life and organic existence remain forever the same; more enduring than the granite and sandstone on which our mountains rest. The note of the nightingale, which singing "darkling," enraptured the ear, or the rainbow-tinted plumage of the humming-bird, which hovered around and sipped the mellifluous sweets of the convolvulus which spread its floral munificence over the azaleas and rhododendra of Eden, were governed by the same laws of vibration and reflection as to-day, govern the same objects. The same appetites and functions, the same demand for carbonaceous and nitrogenous aliment, the same need of oxydation of the tissues have always existed.

Geology in the numerous contributions which it has made to Comparative Anatomy, in bringing from the chambers of the earth, where they had been concealed for ages, the relics of numerous animals, some of which do not now even exist, has furnished ample evidence of the constancy and continuity of plan that has been adhered to in the introduction of the varied forms of animated existence, on the part of the Author of nature. In the fossilized eye of the Trilobite, that exists abundantly

in the Silurian formations of the Ohio Valley, when its various facets and general conformation is studied with reference to the reflection, refraction and transmission of light, it is discovered that the light-wave was governed by the same laws myriads of years ago as to-day. And though no Newton was there to note the relation of equality between the angle of incidence and that of reflection, or to observe that when a ray of light passed from a rarer into a denser medium, it was bent from its original course, and though the cone had been cleft by no mathematical hand to learn the figure of its sections, and to apply the principles of the ellipse and the parabola in the construction of lenses, still the mathematical laws in accordance with which the eye is constructed, then existed, and were obeyed by every ray of light that painted its image on the retina. The fish of that period, with his hemocercal tail, shows, by the form of his jaw, and triple row of teeth, that he had a shark-like appetite, and must have fed on living beings. The mammoth reptiles of that period, demonstrate by their coprolites the same fact. Hence, death has ever been coëval and coëxtensive with life. The pterodactyle of the early geological periods enjoyed his morsel reeking with fresh blood, quite as much as does the cat or the Abyssinian of the genus *homo*, of the present time. Indeed, by a reference to the remains of organized life, which nature has preserved as if it were in a vast *hortus siccus*, where they have been laid up between the pages of the vast volume of creation for the benefit of modern times, there is demonstrated an antiquity for organic life that startled the first investigators in this field so prolific with prodigies.

Though man in his pride stands at the head of creation, and looks down with complacency on the inferior grades of being, still, if he search through the vast domain of vertebrated animals, embracing the mammals, birds, reptiles and fishes, then let him examine the articulated beings, the lobster, the ant, the leech, and the vile worm itself, thence, still descending, let him survey the molluscs,—the mussel, the snail, and the cuttlefish,—and finally closing his survey, let him look through the realm of the star-fishes, and after his thorough examination of these four grand departments of animated nature, he will be compelled to confess that there is not a living creature that in some feature of organization he is not akin to.

Indeed, if a careful comparison be instituted, many animals, in certain respects, are much superior to man. This is especially true in regard to the development of the senses; for example, the perfection of the olfactory sense in certain animals, is well known; also, the sense of sight in certain birds, is far superior to that of man. But, in intellectual endowment, man occupies an immense superiority over all other created beings. It is to his superior brain that he owes his supremacy over the living world. Notwithstanding this superiority, he does not possesss an organ that does not have its analogue in the mammiferous animal. The vertebrata, with man at their head, have been constructed according to one common type. Hence it is, that in studying the functions of the different parts of the human body, we resort to experiments upon the lower animals; indeed, it has been by the aid of vivisection made upon the lower animals, that Physiology has made such rapid strides during the last half century. By means of vivisection, the Physiologist has been able to step into the inner temple of life, and to gaze upon the hitherto unveiled mysteries that have been hidden within the sacred adytum,—the sanctum sanctorum of living existence. Over the threshold to this inner sanctuary there is no need of inscribing "*procul, O procul este profani*," for none but the patient and labor-loving student can recognize and read the import of the *penetralia* which nature has veiled there in an obscurity far more profound than that which shrouded the Eleusinian mysteries of olden time.

Besides the aid which vivisection has lent to the Physiologist in modern times, he has received an additional one in the microscope. With the assistance of this instrument, he is able to follow the primitive cell from the period in in which it is vacillating between inorganic and organic existence, through the numerous stages of metamorphosis, till it finally receives the stamp and impress of vitality; then, having duly fulfilled its mission in the living organism, by the help of the microscope, it is seen to assume a retrograde march towards the external world, which having reached, it assumes again its inorganic condition. The microscope further shows us, in the various crystalline products which it reveals to us in the living organism, that many of the processes in our bodies are purely chemical in character. This is especially so in regard to the renal

and biliary products. Even the blood itself, with a little manipulation, is capable of yielding crystalline forms of most elegant shape and outline.

Again, the science of Physiology is most intimately associated with that of Anatomy. Without a knowledge of Anatomy, the principles of Physiology can never be well understood. Before the function of the brain, the heart and the lungs,—the so-called tripod on which life rests,—can be comprehended, the structure of those parts must be well known. Hence, these are kindred sciences, which must ever march, hand in hand, together. Separated, each becomes of little use; both well understood, will furnish the surest guidance, and become the unerring pole-star to a future brilliant professional career. To the surgeon, a thorough knowledge of both is indispensable. Confidently relying on nature's power of reproducing parts, which Physiology has taught him, he boldly removes the diseased bone or offending joint, and true to what vivisection has demonstrated, he finds his operation crowned with success. Hence, Physiology, with its sister science, Anatomy, are twin diamonds in the hilt of the scalpel that "lights its blade" in the surgeon's hand, and give hopeful tokens of recovery to the patient and unerring promise of an enduring reputation to the operator.

In the pursuit of your Physiological studies, I would strongly recommend you to avail yourselves of the aids which are furnished by a knowledge of Natural History. As before stated, nature has adopted a uniformity of plan that prevades all departments of creation, and, as it were, by a chain of adamant, binds together the material universe. The world, with its countless forms of life, whether living in the air, on the earth, or in the depths of the ocean, is but a materialized utterance of a thought of Deity, in which are combined identity, unity, and harmony. These cardinal principles, which may be perceived even on a limited view of nature, become more and more apparent in proportion to the comprehensive view that we take of her objects.

By a careful examination of the laws which govern the production of plants, and of the impossibility of mixing even those genera which are nearly akin, as well as from observations made on the *hybridation* of the inferior animals, the Physiologist has learned the immutability of

form which nature has stamped on every living being. The pollen of the rose, sprinkled on the hyacinth can never produce a hybrid between the two. Nor can the germinating dust of the elegant amaryllis, applied to the homely bloom of the ambrosia, produce a floral type, midway between the parent flowers. The forms of nature are eternally stereotyped. Though art may modify the form of the rose, nay, even convert each stamen into a petal, still the essential form retains the original characteristics of the primeval archetype that bloomed in the early dawn of creation. The same may be said of the animal forms. No hybridation, no human device can alter the forms in which each creature was primitively moulded. Now, it has been from a comprehensive and careful study of these facts, in reference to the incapability of any plant or animal undergoing any essential metamorphosis, that Anthropology has derived its strongest proofs of the identity of origin and unity of the human race, a point to which we hope, in future to be able to refer to again.

Finally, gentlemen, we will express the hope that some of you will study this department of medicine to an extent beyond that which is merely necessary to secure the collegiate honors vested in a diploma. This science, though vast in facts, andprolific in discoverise and researches which have been made in it, is still incomplete. There are many Physiologlcal questions which yet remain to determine, in the human organism; enough indeed, to confer an enduring immortality upon the future laborers who shall solve them. The true nature of the nervous principle,—whether it is electricity, as the Electro-Physiologists contend,—also, the offices which are performed by several parts of the brain; likewise, the functions of the spleen, are all matters involved in the utmost obscurity, the discovery and elucidation of which, will secure unfading laurels, and a lasting reputation to some future investigators. He, however, who would gain such laurels, must remember that their achievement is only possible through hard labor. As Hercules gained admission to the abode of the Olympian Celestials, through the accomplishment of the severest tasks, so the only price of professional eminence is hard toil and vigorous study. In the practice of our profession, one is constantly reminded of the brevity of human existence. Hippocrates, the illustrious and ever

to be venerated father of medicine, commences his Aphorisuses with the following sentence: *Vita brevis, ars verò longa;* that is, "life is short, but art is long," or of vast extent. Still, with proper application and industry, it is wonderful how much may be consummated within a limited period of life. This was illustrated in the career of the immortal Bichat, one of the most successful cultivators of Physiology, who died at the age of thirty-one years. So highly are his discoveries estimated, and so profoundly reverent are his countrymen of his genius, that, as an imperishable evidence of their admiration, they have assigned him a conspicious place in the illustrious group which, in the marble frontispiece that emblazons the front of the Pantheon, are placed as the first representatives of the glories of France, and as such, are receiving from the Goddess of Fame crowns of immortality. Besides this marble monument, erected by a grateful people to the memory of Bichat, he has left his name upon a still more enduring monument, viz.: the fissure of Bichat, engraven by the temporal bone on the human brain, where it will remain imperishable and indelible, and secure against the revolutions which at times have threatened the destruction of the Pantheon, and have disturbed the repose of the dead that slumber beneath it.

OPENING ADDRESS,

DELIVERED BY

DR. L. C. LANE,

—AT—

TOLAND MEDICAL COLLEGE,

SAN FRANCISCO,

JUNE 4th, 1866.

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San Francisco, June 6th, 1866.

PROFESSOR LANE:

Dear Sir—

We, a Committee, appointed in behalf of the Class in attendance upon the Third Course of Lectures in Toland Medical College, would respectfully request a copy of your late Address, delivered at the Opening of the Session, for publication. A compliance with our request will be kindly appreciated by

Yours, respectfully,

A. FINE,
J. R. PREVOST,
R. H. PLUMMER,
Committee.

San Francisco, June 7th, 1866.

MESSRS. PLUMMER, FINE AND PREVOST:

Gentlemen—

In granting the request made in yours of the 6th inst., allow me to thank you for the compliment therein conferred upon me.

I am, very respectfully,

Yours,
L. C. LANE,
Professor of Anatomy,
Toland Medical College.

ADDRESS.

LADIES AND GENTLEMEN:

The honor has been conferred upon me by my colleagues of delivering the Opening Address of the Third Course of Lectures to be given in this Institution. In announcing this fact, allow me to extend to you, in behalf of my colleagues, a cordial welcome, and also to tender you thanks for thus having honored our hall with your presence; for your audience must be considered as an evidence of the interest you take in our cause, rather than an expectation, on your part, of being participants of a rhetorical banquet; for I suspect that none of you are ignorant of the fact that eloquence is a field in which Medicine has won but few trophies; for the sick, with whom we have most to do, have no delight in the flourishes of rhetoric, since to them the sum of all eloquence is the simple word "health." And, indeed, the several sections which are comprised under the general head of Medical Science, are not of that nature to readily popularize. To elucidate this assertion more in detail, were I to indulge in an enunciation of some of the formulæ of Chemistry, as, for example, how salts result from a union of an acid and base; or how Oxygen is the grand composing, as well as decomposing agent, in the material world; or to step into the field of Materia Medica, and there detail to you the curious and quaint old names of the various weapons which we use in our warfare against disease, as the Aquila Alba,

or "white eagle," or, as we usually call it, Calomel—a bird which, now-a-days, is fast losing its plumes;—or, to pass thence into the domain of Clinical Medicine, and there portray the thousand forms of decay and final death to which poor human nature is at length destined, from the slowly withering touch of consumption to the instant death-stroke of heart-disease; or to make one more shifting of the scene, should I display to your gaze the wonders of Surgery, how, for instance, the great branches of our bodies may be lopped off and still the trunk survive, or how the life-wave, gushing from the wounded artery, may be staunched by a simple cord of silk;—these, I repeat, are topics of the grandest interest to us as Physicians, as well as to the Students who are here to be educated. But to you who are here to witness the opening of our course, I suspect they would prove as dry as the sand on our neighboring hills—nay more, perhaps you might not unjustly consider us remarkable examples of perverted nature, who could find interest, or, perhaps, beauty in the outlines and location of a tumor, or in a well developed case of Erysipelas, or could hear music in the discordant notes of a diseased heart-valve.

Leaving, then, to my colleagues the task of fully detailing these matters in their lectures to the Students, I will not advert to them further, but will first take the liberty of making allusion to the Institution, upon the inauguration of whose Third Course we are to-day in attendance; and I do this with the greater propriety, and without rendering myself obnoxious to the charge of adulation to the gentleman whom the facts to be mentioned most concern, for the reason that I find many persons ignorant of the manner and auspices under which this school was founded and established.

Some seven years ago, there was founded in this city a

Medical College, known as the "Medical Department of the University of the Pacific." This School, which, for a season, had a severe struggle for existence, to which it would have succumbed had it not been for the indomitable energy of its founder, finally outlived the opposition which had been waged against it, and attained to what seemed a permanent foothold among the literary establishments of this Coast. Under its auspices a number of young men were invested with the toga virilis of medical manhood, whose subsequent careers bear ample evidence of the correctness of their teaching, and whose professional success would be a flattering testimonial to any Alma Mater. But, unfortunately, as the first sunbeams began to fall upon this infant edifice, the finger of death snatched from it the master spirit to whom it owed its foundation. The ashes of its founder, the late Dr. Cooper, now repose beneath a simple obelisk in the adjacent city of the dead;—the structure which he had reared, no longer sustained by his inspiring energy, like an arch bereft of its keystone, did not long survive him.

At that period, now near two years ago, a gentleman of this city, whom fortune has singularly favored in his profession, and who had long ago conceived the plan of founding a Medical School on this Coast, now deemed the occasion a fortunate one for executing his long-cherished project. The experience of the previous school had already demonstrated the fact that such an institution was one of the wants of the Pacific States; and in establishing it, he determined that, in thoroughness and completeness of teaching, it should leave nothing undone to fit young men for the practice of Medicine; in fact, that it should rival the best of similar institutions in the Atlantic States.

As pecuniary embarrassments have frequently blighted the

prospects of several of our Eastern Medical Schools, to forego all misfortune from this cause, and set an example which few could and *still fewer* would imitate, he erected a building at his own expense, which could not have been little, from the manorial character of the edifice we to-day occupy. This done, he chose a Faculty and a Board of Trustees, and to the latter confided the care of the Institution, which, in justice to him as founder and donor, has been named Toland Medical College. And further, as evidence of his disinterestedness, he has remitted all the fees pertaining to his Chair—that of Surgery; and, besides, that the school should lose everything of a private character, he has bequeathed it wholly to the State of California, a magnificent gift to her and to the Science of Medicine; and, if I predict aright, it is destined to be, in the future, the cherished resort of the young men of our State, who may desire to qualify themselves for the practice of our noble profession.

The Faculty whom the founder of this School has associated with himself as collaborators in the enterprise, are determined that the principles of Medicine shall be taught here with that accuracy and faithfulness which must ensure a high professional character, on the part of the young men who may be honored with diplomas from this College. For they are well convinced that the prosperity of any institution is in the keeping of her Alumni, and especially that it is not upon the *quantity* but the *quality* of them, that her future prosperity must be based.

We live in an age in which the healing art is no longer deemed a gift of the gods, nor disease the result of the immediate interposition of some offended Divinity. The modern muse, when indulging in the extreme of poetic license, no longer

sings of an Apollo with his clanging darts rattling in his quiver, "going forth like Night," to scatter disease in the Grecian camp, for our profession has taught mankind that disease is governed by as fixed and unalterable laws as those to which the material world is subordinate. The magical charm, the mystic touch, or the sorcerer's art, has long since disappeared and vanished, as it were, like the snow before the sun of a superior intelligence. Instead of relying upon those subterfuges, by which the mind of a former world was held in chains, the physician of the present day must be a man of great and varied attainments; a perfect and accomplished scholar; and among his qualities, not the least is modesty.

The Physician or Surgeon who performs the most cures is the man who *speaks the least* of them: his work has a tongue which speaks with an eloquence and potency that satisfy him. His leisure hours are with his books, whose silent counsels he is ever happy to have an occasion to make a rehearsal of. His name will never be seen on the broad poster, alongside of, or beneath some Aristotelean face of lavishly bearded endowments, as a specialist; nor in the less pretentious place of an *extended* newspaper advertisement. Nor is he one whose voice is heard in the public bar-room, haranguing upon Medicine, detailing there some wonderful cure, or never-before-performed operation, which he has recently done. Nor is he one who will indulge in innuendoes in reference to the treatment of some case in the hands of some fellow practitioner, wondering why the limb was not sooner cut off, or why such and such medicines were not administered in the case, which recently cured just such a one in his own hands; I repeat—the well-educated physician will never resort to any of these artifices, all of

which constitute and make up parts of the armory of the sagacious pretender.

It has often seemed to me a thing strange and inexplicable, why persons who are possessed of fine understandings and superior intelligence; whose judgments, for example, may be unerring in matters of trade, finance or commerce; or who may have the capacity to electrify thousands with their eloquence; or who, with faultless acumen and sagacity, can elucidate the obscurities of mental science; or whose minds are the vast store-houses of the historic lore of the past; and particularly those who are conversant with theological science, all of which are pursuits requiring patient thought and accurate judgment;—I say, is it not a thing greatly to be wondered at that minds so constituted as to succeed in these noble callings, should neglect all the ordinary guides of action, when it comes to matters of Medicine?

For, if common sense held sway in such matters, then would a Mongolian charlatan have left our shores with his pockets filled to repletion by lavish contributions of many of our citizens, when, if I am rightly informed, there is not one medical school in all the Celestial Empire, nor has one human body ever been dissected there? Or, if the principles of even the most ordinary discretion held sway, then would such men as David Jayne, "Old Jacob Townsend," &c., have accumulated fortunes of almost fabulous wealth, so as to be able to revel in grand palatial magnificence; to have, indeed, realized the dream of an abode in "marble halls," and that through the agency of what falsely purports to be the discovery of some great medicine—and all this, too, while the really intelligent physician lives in insignificance and poverty beside them?

If the logic of common sense were a guide in such matters,

then would any one forsake a system which has for its recommendation an age of almost countless years, the grand old embodiment of the thoughts of thousands whose lives have been spent in its elaboration—a science whose founders were not only immortalized, but were given a place among the Olympian Celestials? Or, to particularize, to one single physician alone, the gratitude of the present as well as all future generations will be due, for having grasped and restored, as it were, to its original resting-place, in Pandora's box, the greatest plague of our race. That was Edward Jenner, the discoverer of vaccination.

By the simple discovery of chloroform, blessings will accrue to our race which never can be paid for, nor even estimated. By its aid our race can smile with complacency amid the agonies of death itself—indeed even more than realize the vision of Cato, of "smiling at the drawn dagger and defying its point."

It is certainly wonderful that a system which has won for itself so many claims for reverence and respect from the world, should be neglected, while those baseless chimeras, which sprang but yesterday into existence, and into whose composition chiefly enter the irrational, inexplicable and mysterious, should obtain, for a time, such foothold! To detail an example, I may state that there was, in Sacramento, a few months since, a man, whose wisdom was so profound, that when a lock of hair was sent to him from a patient, from an inspection of the ashes procured by burning this, he could determine the nature and character of the disease, as well as the mode of treatment to be pursued in the case. For a period this impostor had a grand run of practice, so that, in his pecuniary returns, he had what would be called a brilliant career :—in that particular, leaving the honest physician far behind him.

The class of professional men who live by pretension, are characterized by loud, clamorous and vehement harangues upon Medicine, when in the presence of those who are unacquainted with its principles; but who, when questioned by the intelligent physician in regard to the fundamental elements of Medical Science, for example—in regard to the structure and exact location of the heart, or the minute structure of the various parts of the human body, to become acquainted with which requires years of hard study—I say, when these men are interrogated in regard to any of these points, they are dumb as marble statues, in manner and mien lapsing into a solemnity so grave, that you might almost suspect that you had carelessly touched upon the name of some dead relative whose memory was too dear to speak of.

One of the leading aims which is had in view by this institution is, to prepare young men to practice Medicine on this coast. Every climate and latitude have their specific characteristics as regards the nature of the diseases which prevail in them: and here let me say, that the young man who studies disease here as elucidated by the Surgical and Medical Chairs devoted to these departments in this school, will enjoy great advantages over those that have been educated elsewhere, and have had no experience here. Not that we have essentially new diseases here, but those diseases have features peculiar to the Pacific Coast. As illustrative of this statement, I might cite the fact that the cool air of this coast, constantly acting on the surface of the human body, greatly lessens the action of that surface, and, as a consequence, the office of the skin is transferred to the internal organs—to those at least which can act vicariously for it; and hence a greater burden being thrown upon the internal emunctories, they become the more frequent seat of

disease than we find elsewhere. It is evident that facts like these can only be learned by an extended series of observation by those who, having been educated elsewhere, seek this coast as a sphere of medical practice.

In discharging the duties which pertain to the several Chairs, the members of the Faculty have assumed to themselves, individually, very heavy tasks—work which for years hence will be unpaid for; still the ambition to establish an institution of learning that will rank alongside of the Eastern schools, and one which will not fall behind the high standard which California is assuming in every particular, will ever furnish an enduring stimulus that this work shall be well done; so that, if I mistake not, the noble and commendable zeal manifested by its donor, in so magnificent a gift to the State, will in some degree be rivaled by the industry of his co-laborers in the discharge of the duties pertaining to their Chairs.

We well know that nothing short of thoroughness of work can long satisfy the demand which is made upon the teacher here. We have a population which is unusually intelligent. Notwithstanding the hurry and bustle which life demands here, we have a people which do more reading than can be found in any other part of the United States. Our State, as is well known to all, is made up of persons who are by nature possessed of more than ordinary energy and courage, who have left their homes of ease and comfort elsewhere, to seek new ones here. To risk the dangers of the ocean, or the perils from savage or famine on the plains, demanded a large share of native courage, linked with a love of adventure and a daring spirit—qualities which none but men in some degree superior to their fellows, possess. Now, of those who were endowed with a sufficiency of these qualities to enable them to surmount

the dangers and hardships of reaching here, it is none but the most persevering, the most energetic, the most shrewd and enterprising who have been able to succeed here. Those not so endowed have returned again to their homes, yielding the palm to their superior rivals.

Our community, then, is composed of elements of great determination of character, and unusual powers of endurance and native resources, such, as I am sure, from extended observation can be found nowhere else. Now, these same traits are eminently apparent in our youth, whose sterling health, robustness of constitution and mental character, promise, when the maturity of adult life is reached, to furnish a harvest of genius which will control the destiny of the scientific and political future of our country.

In order, however, that such an element of promise may accomplish that destiny, it must be prepared by a thorough training—a training in which the plain and simple principles shall hold the chief place rather than those which give polish and elegance.

In the course of teaching to which our young men are subjected by the Medical and Surgical Chairs of this School, they are instructed not only to see but to touch, handle, and in every wise familiarize themselves with disease in its multiform varieties. They are taught that a day thus spent in the wards of the adjacent hospital to which they have access, is worth more than a week's study without such examples of illustration before them. Also, that a day's labor, while clad with with the anatomist's homely apron and protective sleeves, amidst the reeking odors of mortality, is worth far more than many days' employment with his books and microscope in the pleasant repose of his parlor.

Likewise, besides this fundamental tuition, they are taught that the principles of our science are not fixed and stereotyped, but are ever progressing. Theology and law have their principles, derived from the authority and precedent of the past, from which the correct teacher cannot essentially vary. The Mosaic Decalogue and Justinian's Pandects will serve a thousand years hence as the never-varying compasses within whose span will be contained the length, breadth and depth of theological and legal lore. But not so with our science. A Virchow, a Hughes Bennett, and, may I not add, a Salisbury of our country, have lately added, and are still adding, new treasures to Medicine; so that, to keep pace with its advancement, not the Student alone, but the Professor himself, must be a man of close and constant study. Without this we would not only be recreant in duty to ourselves, but especially so to those whose medical destiny it has been confided to us to shape.

INTRODUCTORY LECTURE

TO THE

FOURTH SESSION

—OF—

TOLAND MEDICAL COLLEGE.

DELIVERED JUNE 4, 1867,

BY HENRY GIBBONS, M. D.

PROFESSOR OF MATERIA MEDICA.

SAN FRANCISCO:

T. G. SPEAR & CO., PRINTERS, N. E. COR. CLAY & MONTGOMERY STS.

1867

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TOLAND MEDICAL COLLEGE,

San Francisco, June 12, 1867.

To H. GIBBONS, M. D,

Professor of Materia Medica in Toland Medical College:

SIR:—We, the undersigned, Senior Students of Medicine, have been appointed as a Committee to express to you the great satisfaction experienced by the Class, in listening to the Introductory Lecture delivered by you at the opening of the Fourth Session of the above-named Institution.

And, furthermore, considering its contents as well worthy of preservation, we are desired to reqnest a copy of it, at your earliest convenience, for publication.

Very respectfully,

J. W. STEELY,
L. ROBINSON,
A. A. O'NEILL,
T. W. SHELTON,
J. J. HACKETT.

GENTLEMEN:—

In compliance with your request, I take pleasure in presenting you with a copy of the Lecture referred to.

Your friend,

H. GIBBONS.

To J. W. Steely, L. Robinson, A. A. O'Neill, T. W. Shelton, and J. J. Hackett.

INTRODUCTORY LECTURE.

In opening the Fourth Session of Toland Medical College, my colleagues have appointed me to represent the Faculty in a general Introductory Lecture. To the Students exclusively I have nothing to say, further than to give them a hearty welcome to the lectures in prospect, and to all the legitimate enjoyments which their studies will afford, and to promise them *quantum sufficit*, as we say, of lecturing in the future. As physicians seldom have an opportunity of administering to a popular audience, I shall improve the occasion by uttering some things concerning our profession which ought to be known and considered by the world at large.

There is no occupation which gives so wide a range as ours to the exercise of man's powers and qualities. First comes the universal duty of earning our bread—universal it should be, though some think themselves fortunate in being exempted from it, by the intervention of a rich father or uncle. Do not envy these exempts—rather pity them, because they have not to pass through the baptism of fire, which disciplines and chastens and purifies the children of poverty, and magnifies their virtues, and crowns their triumph with an exceeding weight of glory.

But the man who would live on bread alone is a miserable animal, and should go on all fours. The true disciple of medicine has much loftier aims. Ambition—aye, ambition—alluring, inspiring, intoxicating, maddening—yet proper within proper bounds, who but has felt its power!—Who does not own that honor and distinction are worth a hard struggle!—that a good name is better than gold! What more precious inheritance can we hand down to our children! Can one estimate, in hard coin,

even counting it by millions, the value of the legacy transmitted to posterity in such a name as Washington—or Lincoln?

In the common view, success in practice means money-making. None of us, I suppose, would object seriously to success in this direction. But what a sorry mistake it would be to estimate the merits of physicians by such a standard! What a small proportion of our craft grow rich!—How few have ever grown rich! How many of the most deserving have toiled all their lives in adversity, and lain down their heads at last on a pillow of straw! Physicians are seldom good business men. They are proverbial as bad collectors and poor managers; and when their patients excel them in financial skill, as is too often the case, alas for the doctor! This state of things presents to my mind a strong argument in favor of a future life. Let the poor doctor cherish faith and take comfort, remembering how the tables were turned on Dives and Lazarus.

Now and then a poor, starving doctor sells his birthright, and with his birthright his honor and his soul, by turning quack and diving into the most mendacious and infamous practices. But, to the credit of our profesion be it said, that among the hundreds and thousands who are trotted through our medical schools and marked M. D. almost as quickly as a native Californian would brand his mustang, a very small proportion condescend to that knavery. The teachings and associations of the profession, brief as they may have been, infuse in the character too much honor to admit of so base a betrayal of trust.

It is worthy of remark how small a portion of advertising empirics have had the least tincture of a medical education. This advertising business is essentially the art of lying, and it is otherwise so vile and infamous that the lying, after all, is the most virtuous part of it. Hence none but bold and brazen men, wanting in all the finer traits of humanity, embark in it. It would be a curious history, that of our California advertising quacks, and would show, that, so far from having ever studied medicine or obtained a degree, most of them never so much as curried a doctor's horse or blacked a doctor's boots. One, who took the lead for years, was an upholsterer and nothing more, until the morning when he was announced in the papers as a celebrated doctor. This fellow had the sagacity to employ a regular physician—a poor devil who had grown ragged on whisky, and who was goad-

ed by starvation to sell his services by the month and do the prescribing, the patients taking *him* to be the great advertiser. One of our present advertisers was a paper carrier, and failing to support his family at that, he made himself a great doctor in twenty-four hours by the aid of the newspapers. Having carried the papers, it was but fair that the papers should carry *him*. The smartest quack who ever figured in California was a shop-boy in a drug store, at $40 a month, prior to his advent as a medical celebrity. If the histories of all the advertisers in California were written out and published, it would be hard to find a patient in the Stockton Asylum silly enough to take advice or physic from any of them.

Some years ago, one of our California quacks flourished an honorary diploma conferred on him by an Eastern school. Such an outrage on the profession led to enquiry, when it was ascertained that he had stolen or borrowed a genuine diploma of an European University, and by passing it off as his own had tricked the Faculty out of an honorary degree. A parallel case is related of the University of Erfurth, which made a business, many years ago, of selling diplomas. An Englishman purchased one for a pretended candidate named *Anglicus Ponto*, with whose name it was filled, and which proved to be his dog! It is said the University thereupon doubled the price of its diplomas.

And here let me say, with some pride too, that of the thirty graduates of the Medical Department of the University of the Pacific, from 1858 to 1863, and the twenty graduates of Toland Medical College in 1864, 1865 and 1866, all, with a single exception, have proved true to their education and their profession. A large proportion of them are engaged in active and profitable practice on this coast, and not a few are treading the pathway of honorable distinction, if they have not already reached the mark.

Though it is rare for a member of our profession to become an advertising charlatan, even under the pressure of low diet, nevertheless there are certain halfway houses, such as Homeopathy, Eclecticism, and the like, which have proved more potent in their seductive influence. But, after all, it is not surprising that the jingle of the thirty pieces of silver should win over to such fancies some of the weak brethren, who, from dullness or slothfulness, had failed to earn their bread by legitimate toil. I do not

speak of those who were trained in heresy, and never baptized in orthodox medicine. By early training men can be brought up or brought down to anything, even to an honest faith in Homeopathy, though it is hard to find those who honestly practice it.

There are two departments of human pursuit in regard to which a large part of mankind are always athirst for novelties—never satisfied with the old, but perpetually craving some new thing; namely, medicine and religion. New doctors and new remedies, new preachers and new creeds, are always in demand. Doctors are not prone to invade the domain of the priesthood; on the contrary, they have sometimes been charged with caring more for the bodies than the souls of their patients, and even with want of regard for their own souls. It has even been said, most wickedly, that wherever you see three doctors you see two infidels. To retaliate for this, many ministers of the Gospel keep a jealous eye on physic, and give their patronage to all sorts of medical heresies. The cunning charlatan knows the value of a reverend endorser, and manages, if possible, to get beneath the corner of a surplice. A donation of a box of magic pills or a bottle of bronchial syrup to a needy parishioner, with a pot of nicely flavored Ointment of Flattery for the Dominie himself, secure the certificate, which is often given simply in the spirit of accommodation, and without suspicion of the base use to which it will be applied. And thus impostures in medicine are promulgated from the pulpit.

No one will understand me as applying these remarks to the clergy in general. On the contrary, and I say it with pleasure, they refer to a small proportion only, of the entire body. There are several religious denominations which furnish scarcely an individual amenable to the censure—whose pastors manifest a decorous regard for rational, scientific medicine, becoming to their profession, and are not dazzled and blinded by every specious novelty which assumes the garb of science. And yet the number of clergymen who permit their names to be identified with quackery, or lend their influence to meretricious novelties, is sufficient to attract the attention of physicians, and to call forth many severe strictures.

I feel the more at liberty to indulge in this train of remark on account of the liberal treatment which the clergy and their families have always received at the hands of physicians. From time

immemorial they have been the protegés and pets of the medical faculty. To run at the call of the minister, or without waiting for his call, to serve him and his wife and children before all others, to decline compensation in all cases, even when the patient is wealthy and in the receipt of revenues from lands and stocks, and the physician feels the *res angusta domi*, which is often the case—such is the universal law. Neither is there any scrutiny of the claims of the patient to the ministerial character. It is enough that he assumes that character, or that society acknowledges it. The service of the medical to the clerical profession is never regarded as a labor or a task.

Nor have we ever asked any favors in return, or contemplated the slightest obligation imposed on them by our services. We do not even seek or expect any signal exhibition of gratitude. We have done our duty, and there we are content to rest the case. Under these circumstances, whilst many act a manly part and manifest a fraternal regard and make us feel that they are our good friends, there are others who set themselves against us, and become our practical enemies, and appear to study the art of arraying prejudice against the regular faculty. If the members of the clerical profession, untaught in medicine, had the same respect for education and science in our profession as they expect the outside world, unschooled in religion, to have for the learning and experience of theirs, they might have greater power to exorcise the wizards and witches of the present generation.

Young physicians born to wealth, are not apt to succeed. With plenty of gold, there is little need of brains. Necessity is the mother of many other good things besides invention. How often does she prove the mother of fortune and of fame! How often does she whip into vigorous effort and final triumph, the sluggish faculties which would otherwise have slumbered forever! Resolution, Perseverance, Industry, are the handmaids of Poverty. A physician starts in his career under the best auspices when his living depends on his own labor, and when every dollar of income is moistened with the sweat of his brow. For the rest, let him live on his books and studies. We are in the habit of attaching too much value to riches. In California especially a man's status in society is determined precisely as is the value of greenbacks. The great future will judge by a different standard. To-morrow

will ask no questions as to riches. To-morrow will weigh us in a more intellectual balance. He that has not written his name on the hearts and minds of his fellow men, will die and be forgotten. The very monument that his wealth may erect over his grave will be a mockery.

The importance attached to wealth is a bad feature of our age. Centuries ago, amid the rudeness and ignorance of the times, mental possessions were more highly appreciated. In the 15th century scholars often begged their bread, society acknowledging the obligation to give them a support. But the current of their lives did not always run smooth, notwithstanding the privilege. We read of a nobleman who suspected two of these strolling philosophers, and who put their qualities to the test by lowering them down a well in buckets till they should compose some poetry. I do not commend either the begging or the test for present use, though we have great need of some test in these times.

Everybody in California is in a hurry to become rich. Impatience in this respect marks the character of our entire population. It must not be expected that physicians should escape the contagion. The first year's practice of Sir Astley Cooper netted him about $25, the fifth year $500, and the ninth gave him but little over $5000. And yet that great surgeon lived to receive $5000 in a single fee, and $100,000 per annum. How many young doctors in California, with $25 in pocket as the nett proceeds of their first year's business, would stay a second year in the same locality ! Dr. Physick, in his day, stood at the head of his profession in America ; and yet, according to his own declaration, he did not earn his shoe-leather during the first three years of his practice.

I am inclined to think that doctors, when they do happen to become rich, often make a better use of their money than other men. We can exhibit some noble examples in this respect—examples of physicians who have won both fame and fortune by their calling, and who have gratefully acknowledged the obligation by munificent contributions to the interests of medicine. Thus have Mutter in Philadelphia and Mott in New York written their names on the fleshy tablets of our hearts. They have gone to their long home ; but every disciple of medicine feels that they still live and that their memories are blessed. Our successors will offer a similar tribute to the memory of the Founder of this

College. But let us hope that the time for a posthumous offering is not near at hand.

It is worthy of note that physicians who pursue their avocation merely for the fees, and who acquire wealth without any other distinction, are not apt to become patrons of science. In the hands of such men the golden stream runs in narrow and selfish channels, never overflowing its banks nor fertilizing the surrounding soil. When they die, they die and are buried.

The Practice of Medicine resembles no other occupation in its relation to the exercise of the qualities of the heart. Its first great commandment is, "Thou shalt visit the poor." There is no escape from this service, even if the doctor desire to escape. Too often rewarded by ingratitude and reproach, still he must rise at every call, and be the servant of everybody. Where is the doctor that does not perform more than his pro rata of unpaid service to humanity? The world knows nothing of the gratuitous labors of the profession, and it cares less for them. I should not be far wrong in assuming that one-half the work of physicians in the United States is done without reward. In European countries arrangements generally exist by which the poor are attended by salaried physicians. But in America this is done to a very limited extent, and only in some large cities.

Sir James Eyre called one morning on a young physician of London, a friend of his just commencing business, and saw his waiting-room thronged with patients. "Why," said he, "you must be getting on famously."—"Well, I suppose I am," was the answer, "but let me tell you a secret. This morning I have prescribed for eight patients. Six of them gave me nothing; the seventh gave me a guinea, and I have just given the guinea to the eighth." Of all places of *business* the office of the doctor is the only one where people apply habitually without money. No other class of men in the world are expected to give their time and labor, at every call, without any regard to compensation. Even the minister of religion has the advantage in this respect; for when he comes at midnight to "shrieve the dying," his services are within the purview of a contract, and he knows that his bread is sure, though it may not always be buttered. The world can never know what doctors do for humanity. These unpaid labors belong, in great part, to the secrets of the profession. In

every community, and under the professional and friendly supervision of every practitioner, there are families in straitened circumstances, not recognized in society as poor, but whose means are barely sufficient for their support. And where is the physician who would demand a fee from such a family? or who would for a moment think of the want of compensation in prospect, when summoned to their aid?

In Philadelphia I was accustomed to visit the patients of an aged physician, now deceased, during his sickness or absence. On one occasion, as he handed me the list, he designated a certain family as the object of especial attention. Expecting to encounter a wealthy patron of my friend, what was my surprise to find, instead, a humble and poverty-stricken household! Conversing on the subject afterwards the doctor remarked: "I have attended that family gratuitously ever since I began practice, nearly forty years ago. I have always regarded them among my best friends." Not less than four or five thousand dollars, as professional services are estimated, cheerfully bestowed on a single family! And yet this was only one case among many. And what physician but has had the like experience? Such labors are never accounted burthensome. If the sick have no money to give their doctor, his willing services can always be commanded by a reasonable amount of gratitude or courtesy.—But what shall we say of those who have the means and pay grudgingly, or not at all if they can escape?—who always find your bill steep?—who always insist on an abatement, no matter what the figure?—nay, who would cheat you out of everything even when you consent to an abatement? If there is a vein of meanness in the human character, the doctor's bill brings it to light, as surely as the leaden bullet is detected by the probe of Nelaton.

What a flowery path would physicians have to tread if they could practice medicine altogether on the score of philanthropy! —or if they could live off one another, as they are supposed to do in consultations!—or if they could feed themselves and their little ones on air!—or if they were paid from the public treasury! How much more potent would be our medicines!—more lasting our cures!—more enduring our friendships! How steadily would the streams of gratitude flow in upon us from the hearts of our patients!

Whilst the study and practice of medicine bring us face to face with the cares and duties of life, and foster the sentiment of benevolence in the heart, they surpass all other pursuits in their relation to mental discipline and intellectual culture. By the very nature of medical studies, all the faculties are exercised and developed, and a healthy balance maintained among them. Some departments tax the memory, Anatomy, for instance ; some, as Physiology, the reasoning powers ; whilst by others the perceptive faculties are sharpened and perfected. What a school is ours for the development of the image of God, in all its likeness to the divine Architect !

In scanning the histories of our great men, men who have served the world as patriots, as legislators, as philanthropists, as lights in general science, the influence of a medical education shows forth conspicuously. A very large portion of the benefactors of humanity have been trained in the school of medicine. Foremost in defense of popular liberty and the rights of man—in works of charity—in reformation of abuse and error—in the education of the young and the general diffusion of knowledge,—physicians are found at the head and front of progress in all directions. Through electricity and chemistry and comparative anatomy and microscopy and mental philosophy, the whole vast range of natural and intellectual science is opened to the medical student. There is no natural limit to his enquiries short of Omniscience. Only the necessities of a business life set bounds to his march. Take away at once from science all who have entered through the portals of medicine, and darkness would overspread the earth. The loss of any other class of men would soon be repaired. But the sudden abstraction of the support given by the medical fraternity would roll back the tide of time a thousand years.

And in this the regular and legitimate school of medicine stands forth in proud pre-eminence over all other schools or systems. Divided as physicians have always been into sects and parties holding diverse views on many questions, theoretical and practical, there is nevertheless a common bond of union, felt if not defined, both by them and by their enemies. And there are outside systems and sects rising from time to time, whose status is equally marked. In the last half century we have Hydropathy,

Homeopathy and Eclecticism. Hydropathy came down at first like Niagara, threatening to wash all the doctors, with their pills and potions, into the abyss of oblivion. But, unlike Niagara, it has dried up ; or, at most, trickles along in a chance streamlet, making less noise in its course than astrology or clairvoyance or psychology. And right in the face of this doctrine, which came to baptize the world in cold water, whisky has become a current medicine, and with many enthusiastic individuals a daily food, on philosophical principles. It is a wonder that the Hydropaths, or some other sect of medical reformers whose hobby-horse has broken down, do not adopt whisky as their motive power and universal medicine. A school of *toddypathists* would find an immense mob of disciples ready made to hand.

The Eclectics have been more successful—at least in the increase of family. They are *Choosers—Selectors*—that is to say, they choose to discard most of the old, active medicines, and to get up new ones. Their doctrine seems to be that there is no medicinal virtue in any article known at the date of their advent, but that a special and exclusive revelation of the qualities of medicines has been made to them. Accordingly, their materia medica is much restricted. In rejecting many of the old and well-known remedies, they act much as a carpenter who would insist on doing all his work with one or two tools, or a farmer, who, discovering that he could make his cows plough, would refuse thereafter to use horses. The Eclectics, however, are progressive. They have their schools and their literature. Some of their leading men might pass for regular physicians, if it were not for the name. Before many years the head of the column of Eclectics will be prepared to fall in with the army of regulars, and to cast off the body and tail of the column.

Then we have numerous guerilla bands, allied to the Eclectics, such as Botanists and Electro-Thermalists and Physio-medicals and the like, most of whom expect to immortalize themselves by playing on the one-string fiddle—"All minerals are poisons." Some of them, if they are smart enough, will wake up to the fact before they die, that the most virulent and the most abundant of poisons are "botanical."

The Homeopathists came in with their one idea of similia similibus, the chief value of which in their own estimation seems to be

that it is one of the old cast-off notions of the regular school. Their materia medica is still more limited, consisting of four articles—Faith, Imagination, Nature, and sugar of milk. They have been at work industriously for half a century. They have their schools, their institutes, their congresses. But what have they ever done for medical or general science? What name have they given to history?

But all these systems and devices have their place. The world, in its fallen state, would not be complete without them. There are certain parasitic animals of bad repute in human society, but whose existence leads to personal care and cleanliness. So, science has its parasites, and is all the better for them.

I have said that regular medicine holds a proud pre-eminence over all these extraneous systems, by virtue of its progressive character and its relations to general science. See what it has done in a few years! Behold the wonderful revelations of the microscope—the new world it has developed and is developing in relation to cell-life, and the intricate physical structure of the body and the changes made in it by disease! Look at the revolutions in Physiology and Pathology, making them new sciences! See the rapid advance in Diagnosis, bringing us into a better knowledge of the nature and hidden springs of disease! And witness the march in the collateral sciences, *pari passu* with progress in departments more strictly medical. Count, if you can, the thousands of great names which regular medicine has given to the world since the oldest of us were born—names which shall live forever in the annals of human society!

And what have the outside schools and systems been doing all the while? Hydropathy never pretended to have a philosophy and a literature. It never proposed to make discoveries beyond cold water and cracked wheat. It was altogether practical, whilst its machinery was too cumbrous for common use. It required for each passenger a coach and six—a retinue of naiads—and patience to undergo six months soaking and parboiling. Why, there is not fresh water enough in the world to treat all the sick Hydropathically in an extensive epidemic. The grand system of Hydropathy, which came over us, a few years ago, like a summer cloud, has left in memoriam one single name—no more—that of Priessnitz: and even that one name might not be cor-

rectly spelled by one pupil in a hundred of our grammar schoo
As to his history, it is already mythological, and he looms
faintly in the remote past as some illegitimate son of Neptune.

And what has the Eclectic school accomplished beyond devisi
a short cut to the doctorate, by which the standard of medical e
ucation is lowered, and boiling down the juices of a few herbs a
putting them to trial? Our American Pharmaceutists have d
much more and much better work in the preparation of medicin
The scroll of Fame bears no record of the name of an Eclectic
be handed down to posterity. The scientific world has no kno
ledge of such a sect.

Still more insignificant are the claims and achievements of E
meopathy in the general field of science. Ignoring Pathology a
Physiology in the treatment of disease, and resting on a sing
dogma, and adopting the preposterous notion of increasing
power of medicines by diminishing their quantity, the disciples
Hahnemann have built about them a Chinese wall, impervious
the light of science. They have numbers—they have intelle
Many of them would shine in the sphere of legitimate pursuits. Th
have had fifty years of opportunity, in the golden age of the
man mind, when the earth has trembled beneath the universal
ward tramp of discovery; and this greatest half century of histo
they have spent in watching the twitchings of an eyebrow
counting the feathers in the wing of imagination. They ha
charmed the sensibilities of some intelligent ladies, good judg
of crinoline, and they have taken captive a few divines of a poe
turn. But what name have they given to the world as a lega
to posterity? Even the few distinguished men of the regular pr
fession who went over to their ranks and were received wi
shouts of exultation, were never heard of afterwards. They t
died and were buried.

So it is, my young friends, with all these sects and factionist
who repudiate regular, rational medicine, and seek to build
their systems on popular ignorance, or popular prejudice. If y
play for money, it is possible you will succeed better outside
the true church than in it—especially if conscience is lost in se
ishness, and wisdom in cunning. And the lower you aim the mo
certain your success. The quack who can lie the best will mak
the most money.

You will observe one remarkable trait in the conduct of these schismatics and charlatans, who denounce the regular school and vilify its practitioners as poisoners and butchers. They are all devoutly ambitious of the distinction and honor attaching to the regular Doctorate. They would almost give their lives, if necessary, for the parchment-evidence that they had once been in contact with good society, and enjoyed the fraternity of those whom they denounce. Perhaps they have read of seven women who should lay hold of one man and say—We will eat our own food, we will wear our own apparel, we will use our own physic ; only let us be called by thy honored name to take away our reproach and hide our tricks Or they may have taken lessons from those gentry who, unable to rise above crackers and cheese at a free lunch, repair afterwards to the steps of the Occidental to pick their teeth.

* Why do not physicians take measures to protect themselves and the community from impostures, by exposing them, or by seeking legislative action ? This enquiry is often made. As to exposing charlatans, it is what they want. Notoriety serves their purpose, and ill fame is as good as any other, because it is as profitable. We had a lawsuit for libel, a few years ago, between two quacks in San Francisco, of whom it was always suspected that they got it up by arrangement, for advertising purposes.

Legislation against quackery is doubtful policy. In Europe, where the people have somebody to take care of them, stringent laws exist for the protection of society against medical impostures. But in America, where they look out for themselves, the field is generally open to fools and knaves of all shades, who would prey on the pockets and lives of the sick or silly. Years ago there existed in many of the Atlantic States laws against quackery. But they were inefficient and have been mostly abandoned. It appears to be the general feeling of the profession not to interfere with the tastes of people in this particular, but if the sovereigns desire to be wheedled out of their money by clairvoyants, or astrologers, or mediums, Teutonic, or Celtic, or Saxon, or Mongolian, to allow them the luxury. In our fatherland laws on this subject are still in force ; and yet Great Britain is known of old as the paradise of quacks, and it is the school which has produced the most accomplished knaves in California in this line.

Never a session of our Legislature passes without an effort from

some quarter to procure legislation against quackery. My own sentiment has been for many years hostile to every movement that can be construed into an attempt on the part of the profession to protect itself from empirical rivalry. If the people, through their law-makers, choose to legislate for their own protection, let them do it. They may open their blind eyes and see their true interests sooner in this regard if left to themselves, than by any interference on our part, which is sure to be attributed to the most selfish motives.

The great American idea of education now is, that society should educate the children and fit them for the purposes of life. Selfishness, if no better motive, prompts to this course. Children, if not trained to usefulness, will be trained to vice. For its own protection, therefore, society must educate the rising generation, at the general charge. Such is the popular theory, under which the great republic is to be reconstructed. The workmen have had a grand quarrel over the building, and the result has been that the old corner-stone of slavery has been knocked from under, and the edifice well nigh tumbled into ruins. And now they are building it up with universal education as a corner-stone, and we are all hoping that they will get it done as soon as possible, so that we shall have a quiet and comfortable home once more.

Among the children thus to be schooled and trained for their and our future good, some will have charge of the health and lives of the people. The doctors of the year 1900 are now in our public schools. Has society any special interest in their education as physicians?

A ship is about to sail from San Francisco for China or for Panama, freighted with passengers. There must be a physician on board. What man will take his family without? He must be the right kind of a doctor, too. Suppose it were announced that among the provisions for the security of passengers to embark on the Colorado for Hongkong, the Steamship Company had engaged the famous Li-po-tai for physician? or an astrologer? or a clairvoyant? or an imposer of hands? or a medium? or any other one of the rather extensive and diversified class who glorify themselves in the newspapers? Such mountebanks are well enough on land, where there are always regular doctors to fall back on. But the voyage over the trackless waste, where the whole world

outside the ship's walls might as well not exist, brings men to their senses and causes them to appreciate true science in its relations to human life.

May I not apply the comparison to society at large? The coming generation—our children—are embarking on the ocean of time, and we, of the present, are getting up their outfit. They must be supplied with the best defenses against disease and death which science can furnish. Is it not reasonable that the State should provide such defenses? that it should educate, at its proper cost, the guardians of its children's lives?

Be this enquiry answered as it may, all will agree that the State should throw no legislative impediment in the way of medical education, but that, on the contrary, it should remove all impediments as far as possible, and provide facilities.—Now, mark the application: A knowledge of Anatomy is absolutely essential to the practice of Medicine and Surgery, and that knowledge cannot possibly be obtained otherwise than through dissections of the dead. What aid does the State afford to this first step in the art of preserving the lives of its subjects?

I shall not stop to argue the necessity of dissections. That man is a fool who needs argument on the subject. Take an individual as nearly brainless as possible not to require a guardian to feed him with a spoon, and suppose him to stand in need of an operation—the amputation of a leg, or an arm, or even a finger; or the excision of a small wen; or the opening of a simple abscess. A surgeon, so called, approaches him, instruments in hand, ready to do the work. At this juncture, our patient is informed that his surgeon never so much as dissected a single dead body. Would he submit himself to that sort of surgery? Or would he not exclaim: To die or to be killed—that is the question!

Let me state the case on a broader basis. An emergency lately occurred, in which the nation was required to summon a million of her sons to her defense. This multitudinous host had to encounter all the enemies of life—pestilence in all forms at midnight and at noonday—bayonets gleaming around them, and whirtling missiles darkening the air. To guard the hygiene of the camp—to ward off the insidious miasm—to extinguish the consuming fever—to staunch the gushing life-blood—to amputate the mangled limb—thousands of trained and skillful men are needed.

There is no time for preparation or study. Minute men, or none at all!

The conflict is over; and one-fourth of the million of men are laid low. A higher degree of skill and ability was never brought to bear on the battlefield and the hospital. The surgery of the war reflected honor on the American name. And yet how many failures! What suffering and loss of life from ignorance and inexperience! And how much of the mischief was the result of that cruel and superstitious and barbarous hostility to dissections of the dead which prevails in society, and which is fostered rather than counteracted by the general tenor of legislation!

As soon as people adopt rational views on this subject—as soon as they realize the fact that if physicians and students have no opportunity of dissecting the dead, the living must suffer—that themselves, their wives and their children must be the victims, then they will not only exact from every practitioner of Medicine and Surgery an adequate knowledge of Anatomy founded on practical dissections, but they will provide the means for dissection.

A few States of the Union, rising above the standard of Chinese legislation, have legalized dissections, by providing that the bodies of persons dying in public institutions without relatives or friends to claim them, shall be at the disposal of physicians for dissection, under proper conditions and restrictions. We have a law in California to that effect. Such statutes are salutary, for the reason that they remove all incentives to the desecration of the grave. With this statute in force, the friends and kindred of persons interred in our cemeteries may banish from their minds all apprehension of disturbance of the bodies. Such apprehensions however are not well founded anywhere, under ordinary circumstances: for the public institutions of large cities always furnish ample material for anatomical examination. Besides, the risk of detection is too great, the consequences too serious, to admit of the invasion of private cemeteries.

It is a great mistake to suppose that practising physicians and surgeons are in the habit of dissecting, and that "subjects" are in demand among them. The common people ought to know that dissections are not performed at the houses or offices of physicians; that not one in fifty ever dissects a dead body after procuring his diploma; that it is only in connection with the educa-

tion of students in medical schools that cadavers are needed ; and that a very small number are sufficient for all purposes.

It is by no means creditable to the newspaper press, considered as an instrument for diffusing light and knowledge, that its influence is very generally directed so as to foster the foolish and barbarian prejudice against anatomical dissections. The story of a dead body in a box found on its supposed way to some doctor's garret, makes more noise than an earthquake. It is dressed up with every possible horror, and passed round through all the papers, as if to frighten people into the belief that a corpse is never safe in the grave, but that the doctors are prowling about all the cemeteries, like hyenas. There is no intention in this to impede scientific enquiry ; only, such items are too valuable to be thrown away in making up a newspaper.

Not many years ago a famous trial took place in Boston, the result of which appeared to depend in a great degree on the fact that the slayer, for the purpose of concealment, had cut up the body of the victim and burned a portion of it. Such a deed was enough to overshadow all palliative doubts in regard to the circumstances of the homicide, and to shut out the prisoner from all hope of mercy. The mutilation of the corpse was held up to the jury with telling effect.

The same irrational prejudice which would prohibit all dissections of the dead body, also interferes with examinations after death, for the purpose of ascertaining the seat and nature of disease. Physicians should strive to educate the popular mind on this point by making examinations whenever practicable. There is but little difficulty in the intelligent classes of society. Reflecting persons have sense enough to know that diseases run in families, more or less, and that the inspection of the lungs, or the heart, or the stomach of one member of a family, dying with disease of those important organs, may furnish the means of saving the life of some of the surviving members. The fault is often with the physician himself, who makes no proper effort, or worse still, no effort at all, to procure an examination, even in cases of great interest and importance. Sometimes the objections can be readily overcome by the clergyman of the family. Ministers of all denominations will almost invariably aid the physician in this respect.

If disease should invade the farm-yard and begin to carry off the cattle, how soon would the husbandman see that an examination be made of the dead cow or horse, for the benefit of the living! Even hogs and dogs would seldom be permitted to suffer for want of dissection of their dead comrades, to ascertain the cause of death. But when it comes to human beings, to the children and the family, a foolish prejudice interposes against their health and lives!

Persons are apt to entertain erroneous and often absurd notions as to the extent and manner of necropsic examinations. Care should be observed in asking consent, to correct such errors. Sometimes it is not necessary to examine further than the abdomen or the chest. I have frequently overcome objections by urging the advantage to the preservation of the body, of removing the contents of the bowels, as it is here that decomposition commences. Where it is desirable to keep the body several days before interment, the introduction of an antiseptic into the cavities, which is a sort of embalming, may be absolutely necessary.

Let me urge the propriety of making post mortem examinations in all cases where consent can be obtained. To young physicians is this especially important. It familiarizes them with the use of the scalpel, and perfects their knowledge of Anatomy, to some extent. It imparts knowledge, positive or negative, in regard to disease. It familiarizes the popular mind to a great necessity of science.

Many important problems in Physiology, which could never have been solved in any other way, have been determined by experiments on the living bodies of inferior animals. Attempts have been made on the score of humanity, in England and America, to prevent vivisections. In the City of New York a society for the prevention of cruelty to animals has arraigned Professor Dalton before the public on this ground, and also appealed to the Legislature to prohibit the practice. A French journal notices the movement, and remarks that the New York society says nothing about the many thousand cattle which are slaughtered every year in Brazil to supply the New York market with raw-hide whips.

Physicians have frequently sought to abate the prejudice against dissections by requesting that their own bodies should be dissected or examined after death. Old Dr. Monsey, who

died in 1788, at the age of 95, the favorite physician of Chesterfield and Robert Walpole, went so far as to direct that his body be dissected, and the remains of his carcass, to use his own language, "be buried in a hole, or crammed into a box with holes, and thrown into the Thames." His body was actually dissected, according to his instructions, and a lecture given upon it to the students of Guy's Hospital. I have known many instances of physicians requesting post mortem examinations, for the purpose of determining satisfactorily the nature of their disease. One case of a very different character fell under my observation. A physician dying of an obscure organic affection, the necropsic investigation of which would have been highly instructive and useful, said to me with great emphasis, when he felt his end to be nigh—"Under no circumstances am I willing that my body shall be opened after death." His wish was complied with, of course; but the diploma of such a man ought to be cancelled.

Civilization demands that the lifeless body be treated with decent respect; but veneration for it belongs to Paganism. To burn it and preserve the ashes was once the highest honor. In modern times it is buried in the earth. The Chinese in California are content to secure the bones and transport them to their native land. These things are governed by usage. Our custom is to clothe the body carefully, to deck it with flowers, to lay it in a well-wrought casket; and then it passes forever from view. Its putrefaction and decay we do not then behold. If we did, the probability is that we should begin to enquire whether it is not better to burn it and preserve the ashes in a sacred urn. I hope the day is not far distant when it will be considered a slight and a dishonor to a dead body to bury it, like a dog, without scientific inspection. Inert and lifeless, a tenement deserted, a form without the soul which so lately inspired it, it is nevertheless a miracle of Divine workmanship. And there is more respect shown to its Creator, in reading from it a lesson of the wisdom and skill of the Architect, than in committing it, unimproved, to silence and to dust.

The great enemy of rational medicine is popular ignorance. From this source come the obstructions to education, the failure to appreciate merit and the success of folly and imposture. Physicians

stand on trial before a judge and jury composed of the people. Until the people are educated to the capacity of judging correctly, their verdict is unsafe and uncertain. But the world moves. Faith in man and faith in God inspires us with confidence in the final triumph of truth over error. The District School is molding the popular mind as it never yet was molded ; but many years must elapse before the full fruition of its influence. Meanwhile we must learn and labor with diligence. There must be no laggards in our ranks. If we would reap honors from our profession, we must honor it by our industry and devotion. And let us gather inspiration from the thought that RATIONAL MEDICINE is an integral part of the philosophy and science of the world, and that it is identified with the great interests of humanity.

VALEDICTORY ADDRESS,

DELIVERED AT THE

CLOSING EXERCISES

— OF —

TOLAND MEDICAL COLLEGE,

NOVEMBER 4th, 1869,

BY L. C. LANE, M. D.,

PROFESSOR OF ANATOMY.

Published at the Request of the Class.

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ADDRESS.

GENTLEMEN OF THE GRADUATING CLASS:

The task has been assigned to me by my fellow Professors of delivering the lecture which concludes your medical collegiate course; and in the outset of my address, allow me to offer you my sincere congratulations upon your having reached the goal of your hopes, the aim of many years. To-day is to be one of the chief epochs in the calendar of your lives; on the grand dial-plate of your professional careers it will mark the birth-day; towards it, in the weary hours of past labors, you have looked with fond expectation, and back upon it, in the distant future, when the toga with which you are to-day invested has been well worn, you will gaze with delight, and feel a fresh heart-throb as the whole scene rises up, illuminated by the "tender moonlight of memory."

To-day, you are released from the guiding bands which your Alma Mater girded about you as she taught you to take the first steps in the world of Medicine; or, to borrow language and figure from the seaman, the last timber has been laid, the last spar has been hoisted into place, sail and rigging all in order, and we are here to witness the sliding down of your bark from the platform on which she has been built, and her launching upon the ocean of your future professional career.

At such an epoch, and on the eve of such a voyage, a few reflections on what has already been accomplished and what remains to be encountered and experienced on this, to you, untried sea, will be in proper place. In preparing yourselves for the practice of Medicine, you have made sacrifices and incurred personal dangers, to which no parallel can be found in the whole list of human em-

ploy them. In the annals of olden time, we read of a celebrated personage, Mezentius, king of Cere, who was a model tyrant in his day; not content with the ordinary punishments in vogue at his time, his chief delight was to refine and improve upon cruelty, and among the most noted of his plans, one which, by its infamy, has given immortality to his name, was to chain a living man to a dead body; now you, in your very entrance upon your course of study have voluntarily imprisoned yourselves with the dead, and, for day after day, week after week, and month after month, have wedded yourselves to the decaying forms of mortality. The world turns its face from the dead, and with quickened pace flees the charnel-house,—but you, endowed with the same aversion, have been forced to unlearn and outlive it; indeed, these instincts of nature, of horror for the dead and aversion to disease in its unsightliness, you have been required, by stern self-discipline, to rase out from the tablets of your hearts, and to implant in their stead, new ideas, new loves and new impulses.

The diseases of the human body are so various, so unique and so deeply hidden and completely masked from one untrained in observation, that no description, let the pen describing them be ever so gifted, can so portray them as to render the original recognizable; hence the resort to clinical teaching,—a study of disease not from a master's description, but at the bedside in nature's own unerring book. The germs of this precious method of study are to be found in the customs of the Greeks, among whom the temples were the resort of the sick and unfortunate, and the priests were the nurses and physicians, and besides, the duty was enjoined upon them to record upon tablets descriptions and remedies resorted to in the cases which came under their care. Thus, from personal observation and careful comparison, were laid up those facts which the great organizing mind of Hippocrates knew how to gather up and present to the human race, as the first rational work upon Medicine, of which parts have been left amidst the cataclysms which have swept from the field of human civilization so many precious monuments during the last three thousand years,—yet of the labors of the great Æsclepiade, the ruthless axeman, Time, has spared one, the "Aphorisms," in which, as in miniature photograph, are epitomized the countless lineaments of human disease,—and, to

avoid the tedium of unvarying concíseness, Hippocrates has interspersed, here and there, philosophic generalizations, which, like flowers clinging to, and partially veiling the rock-work of the main structure, have been the admiration of saint, sage and bard of every succeeding generation. For example, Goethe deigned to gather from this exhaustless mine such gems as, "Art is long," "Life is short," "The Occasion is fleeting," and added these to the singular armory of his Mephistopheles, the half-Christian Satan of modern times.

From the temple, however, the clinic was by the Romans transferred to the home of the sick man himself, whither the medical master accompanied by his students repaired, and subjected the patient to a most minute inspection and severe examination. In fact, to borrow the language of the great epigrammatist, Martial, in detailing his own experience of such clinical visits, the examination was conducted with far less delicacy than would be, or even ought to be submitted to by a sick man. For, says the Roman wit, "On a time, I was suffering with a slight illness; the physician came with his retinue of students; a hundred cold hands touched me; on their arrival I had no fever, but they left me with one."—It was a Roman Matron, Fabiola, who has the honor of having founded the first hospital: thus, by the hand of woman, was intwined one of the fairest flowers in the wreath of human benevolence, and Medicine made to advance one step further, since, for nearly twenty centuries, notwithstanding whatever errors may have been written in books, the hospital has furnished, through its inmates, the unmistakable truths of Pathology. To read these great truths, as written by Nature's own right hand, you have daily followed your Professors through the wards of the neighboring hospital, and, as I said in the outset, have thus made sacrifices of ease, comfort and natural feelings, such as are demanded in the preparatory training of no other human profession; nay, more than comfort and ease must be sacrificed,—personal risk of life must be incurred. From the statistics of the Philadelphia Medical Schools, it appears that scarcely a year elapses, that one or more students do not die from typhus, contracted from exposure in the hospitals.

Aside from hospital exposure, the dissecting-room offers perils quite as great. Do we not know that one drop of erysipelatous, or puerperal poison, engrafted on a healthy person, will bring death quite as surely as the Minnie ball? Also, that other matters to which the dissector is exposed, in quantity of atomic minuteness, when once they find ingress through the slightest wound into the human body, can never again be eradicated, but, as it were, with fangs of steel grapple hold of and cling to the very hearth-stone of existence, thence mingling, day by day, with the life-current of the unfortunate one, venom from an exhaustless chalice of death.

But these perils, these risks, and these sacrifices, which, as unsightly pictures, perhaps, I have dwelt upon too long, I will now shift from the scene, in asking if they have not brought with themselves a noble reward. Your studies have had for their object the "strange, eventful history" of life in its widest extent and compass. Your experience and knowledge of life, in its wealth of change and mutation, as opened to youby your studies, enable you to comprehend the momentous words of Goethe's "Spirit of Life," where the poet, touched by the finest key of inspiration ever reached by his genius, makes her exclaim—

> "In the flood of life, in the storm of action,
> I am moving to and fro.
> Here, bringing into life,
> There, rearing a tomb;
> An eternal sea,
> An ever-changing weaving.
> Thus seated on the loom-stool of time,
> I weave the robes of Divinity."

Of the essential and inherent nature of life your teachings and studies have given you no knowledge. Like the mathematician, who actually knows nothing of the nature of number, space and time, and yet is constantly occupied with calculations relating to them, so life, in its essence, is a sealed mystery, of which no genius has yet discovered the key;—still the laws and order according to which its phenomena are regulated and take place, are the leading objects of medical study, and, as you well know, the wonders which investigation is constantly unfolding to the student, well repay him for his risks, toils and discomfort. To

every true lover of nature, and every honest student of life, the inherent reward which invariably accompanies such research is far higher and more to be prized than anything in a material sense which can be realized. And hence, instead of the study of Medicine tending, as is often said, to freeze out the finer feelings of human nature, the effect truly is the reverse.

Ossian, in speaking of one of his heroes, gave, as one of his noblest qualities, his love of blood ; for, says he, "blood to him is a pleasant summer stream, which brings joy to the withered vales, from its own mossy rock." The opinion of the world is, that our profession have similar sanguinary tastes and endowments. Perhaps an exceptional one may be so, who, having stolen into our ranks illegitimately, retaining his savage, uncultivated manners, loves to display, as "trademarks," hands and clothing stained with blood ; yet no one, who has had the humanizing influence which the long course of study requisite for entrance into our profession imparts, can tolerate such violations of ordinary de corum.

For the sake of my hearers, who are here to be witnesses of the honors with which this day you are invested, permit me to cite some points, already familiar to you, but which, when first presented to your minds, awoke the highest feelings of admiration and mental pleasure. For example, in the continual metamorphosis and shifting of matter from the material world to the living body, and there, having temporarily undergone an apotheosis, it soon slips from the godlike summit of life adown the precipice of death, to become a part of Nature's vast inorganic magazine, we have one of the sublimest phenomena. Take, for example, iron, phosphorus, lime, which are integral parts of our bodies, and study their transmutations and changes, ere they reach the living being. First, we find them in the rugged unbroken rock, which makes the mountain side, or perhaps intrenched more deeply in the bosom of the earth; from these hidden recesses they are brought to light by the foaming, noisy stream, the unresting wave of the ocean, the thundering cataract, the ponderous glacier, which, beneath its mighty foot, reduces the granite and basalt to dust, and to these grand powers, which, as eternal forces in the hand of Nature, accomplish her mighty hammer-work, we may add the cleaving thunderbolt,

and even the earthquake itself, as the grand leaders of the mighty host of natural forces, which, as in a vast mortar, reduce the trap-basalt, old red sandstone and granite which make up the skeleton of our earth, to microscopic dust, and thence dispense them to the rootlets, stalk, blade, flower and grain of wheat, which is plucked by the human hand, as building material for human blood, human bone, human muscle, nay, even the brain itself, the instrument of human thought. The thoughtless delver in guano, upon the isles of Peru, hands sustenance to the plant, thousands of miles away, which, in its turn, passes on its precious elements to the brain of wit and genius; and thus the miner, whose intellectual scope is but a few degrees beyond that of the sea-bird which has its haunts there, becomes the unconscious furnisher of the oil which burns and keeps alive the lamp of intellect. Or, if from this microcosm in which the mind is suspended in wondering awe in its contemplation of forces immensely great and those infinitely small, we pass to the microcosm, or lesser world of man himself, where the aid of the microscope must be invoked to enable us to penetrate and see what transpires, we encounter, at each step, that which is no less novel, strange and admirable. As before said, no one has yet been found worthy to enter the inner temple of life, and gaze upon its *adytum* and *penetralia;*—mysteries exist there more sacred than Eleusinian or Masonic, which Nature, with her own hand, has placed the veil around, and has inscribed thereon, in unfading letters, KNOWS ONLY TO MYSELF;—still, with the crucible, retort, lamp and blowpipe, which chemistry has furnished us, the scalpel of the Anatomist, and, above all, the microscope, we have here furnished keys which have opened to us the outer doors, and we are already beyond the threshold, in fact, have a dim insight into this temple, and here and there have glimpses of its "majestical roof, fretted with golden fire"; in fact, so thoroughly are we intrenched therein, that it will require but a few generations more, should each one have a Van der Kolk, a Virchow, a Moleschott, a Robin and a Beale vouchsafed as leaders, ere this grand problem of life shall be solved. By the aid of the microscope and the helps before cited, we know now, that the drop of blood that exudes from the prick of a needle contains in solution every element which enters into the constitution of our bodies. In it are to be found the elements

which solidify into bone, which become the contractile particles of muscle, which may be converted into the elastic chord whose vibrations are syllabled into the countless sounds of human language, or into nerve-structure, by which we see, hear, taste and feel

In the contemplation of these phenomena of our being, with whose study you have been so long occupied, every student finds his labors a thousandfold recompensed,—for not only does he acquire facts which aid him in the first of human vocations, viz. the alleviation of pain, but, at the same time, his intellectual nature is continually enlarged by pictures of sublimity of the highest order. From the study of man, as required in Medicine, we learn that our bodies are a part of the material universe, related to and dependent upon it in many ways ; for to the sun we look for light and heat, and to the moon for the purification of the vast bodies of water upon our globe by tidal influences,—and upon the earth's diurnal motion we depend for sleep ; in fact, the farther we push our researches, the more do we find that our bodies are governed by the same laws as those which obtain in all material nature, and, to adopt the language of the great poet,

> According to laws
> Fixed and eternal,
> Must we, one and all,
> Unerringly accomplish
> The circuit of our being.—GŒTHE.

Your reading, Gentleman, has long since shown you that our Profession is one of progress and continued change. If we be permitted to look ahead, into the far-off cycles of futurity, it is probable there will arrive a period, when all the problems in reference to our bodies will be solved, whether in health or disease ; for this purpose, observation and experimentation must unite their forces, and with that sharp logic that detects and eliminates the faintest shadow of sophistry, like two opposite mirrors, they must mutually reduplicate and correct the work of each other. Theory, which has served as a valued aid at times, has often planted insurmountable walls across the pathway of truth, which, from the sustaining power of the high authority whence they emanated,

conjoined with that religious sanctity which age imparts, have seriously impeded the advance of medical truth. For example, the opinions of Galen, in part true but in many points erroneous, were the sacred and unquestionable canons of our profession for over a thousand years ;—none dared oppose or add one principle; finally, a mind arose in the firmament of intellect, which was gifted with such rare quality of originality and self-reliance, that it not only dared to question the authority of Galen, but it threw overboard all the dogmas and ideas of the past, and created for itself a new arena of thought ; as Columbus opened to humanity a new world for colonization and liberty, so the iron-headed old Swiss, Paracelsus, called also Theophrastus Bombastus, broke the shackles which for centuries held in thraldom the medical mind, and like the great navigator, opened up a new world, where coming generations of thought might find a new home, a new sphere of action, where no name, authority or precedent of the past would prevent progress or discovery. Though this undaunted innovator, Paracelsus, in his ruthless and sanguinary tirade upon the ideas of all others, whether past or cotemporaneous, often fell into extravagance, yet to him must be conceded the honor of having introduced the methods of observation and deduction, by the aid of which Medicine can alone make unerring progress.

What I have said to you, thus far, portrays, in a brief and cursory manner, some of the characteristics of your past studies,—to-day, as I have said, your student-life undergoes a change, you become practitioners of Medicine, and we are here to witness the launching of your barks upon the ocean of professional life ; but this epoch, so noted in your careers, is it to be the day that shall, in future, record the perpetual closure of your books of study, the repudiation of these old friends to whose faces you have looked so earnestly for advice and instruction during so long a time? Indeed, is the noise and pageantry of to-day to be like that rattling sound in the ears of the patient who is inhaling chloroform, and like that last echo of the senses that salutes him as the anæsthetic bears him from the conscious world of life to that of Death's half-brother, Sleep ; shall the "pomp and circumstance" of to-day but be as the funeral cortège that shall attend and consign the last remains of your ambition for study to that

Lone Mountain that knows no waking? If such is to be your future course, then it requires no prophet to foretell that your coming lives will be but a career "full of sound and fury, signifying nothing." I am sure, however, there is not one of you but that resolves that such shall not be the case. Time, however, like the Arabian Night's magician, too often, by the waving of his hand, effaces such resolves, and consigns them to oblivion. That the recollection of these resolutions may remain and have a constant abiding-place in your minds, is the earnest wish and parting request of your Alma Mater; thus, in the honors which thereby you are sure to gain for yourselves, she, like the parent of an illustrious child, will feel herself fully rewarded for her cares in your behalf.

In entering upon your career as practitioners of Medicine and Surgery, you will have opened to you new fields of thought, observation and action; you are to have as objects of care and study diseased humanity,—sick men, sick women and sick children. You are to have insights into human character, which no other vocation of life can offer: man in his weakness, frailties, foibles, irresolution, whims, caprices, fickleness, miserly meanness and querulousness, on the one hand will be presented to you; on the other hand, man in his courage, resolution, bravery, generosity, indifference to pain, and firmness of character which nothing can move, will also be presented to you; yet the former class so greatly outnumber the latter, that, with the great satirist, Boileau, you will be inclined to agree, where he says:

> "Of all the animals who move in the air,
> Who walk the earth, or swim in the sea,
> From Peru to Paris, from Japan to Rome,
> To my mind, the most foolish of all is man."

The examples, however, where your patient will display those qualities which so eminently dignify human nature, will, as I have said, be the exceptions; but as a single beam of light can illumine a darkened chamber, so the occasional meeting with such cases of noble virtue will not only render you content with your profession, but inspire you with the highest admiration of human character.

Another subject of observation and reflection to you, will be

the examples of human intellect wasted, worn, and, perhaps, quite blotted out by the influence of age, care, or sorrow ; nay more, that such influence may not only make a wreck of intellect, but may likewise sap the very foundations of life itself. Schiller, who had a thorough medical education, in fact took a premium for his inaugural thesis, has traced the picture of a wretch, who, to destroy his father, sought to do so by the fiendish methods of mental torture. As this picture delineates, in language never surpassed, the influence which passion, emotion and affection may, when fully aroused, have upon the body, I will take the liberty of quoting it, and though the quotation may be a long one, I am sure it will interest you, especially when I tell you, that, when Schiller wrote it, he was a student of Medicine, and not yet twenty-one years of age.

Franz Von Moor, alone in his room, absorbed in deep thought, exclaims :

" It lasts too long for me ; the Doctor intends that he return to youth again ; the life of an old man is indeed an eternity. Oh, that there were free way to the ruin of this troublesome, tenacious lump of flesh, who, like the magic mole in the story-book, by his work under the earth closes the pathway to my treasure.

" Must, then, my schemes bend beneath the iron yoke of mechanical device? Shall my high-aspiring soul be chained to the snail-like, creeping action of matter ? My task is nothing more than to blow out a light, which continually seems to acquire new strength, as it consumes the last drops of oil. And still I would not like to do the deed myself, on account of what the world would say. I do not wish to kill him. I would like to do the work like a skilful physician, or rather the reverse of what his art aims at. I would not interrupt, in an outright manner, the course of Nature, but I would only hasten her speed ; and as we have the means of lengthening out life, so we should, in like manner, know how to abridge it.

" Physicians and philosophers teach me how admirably the conditions of the soul correspond with those of its bodily machine. Painful sensations ever accompany a discordant vibration. The passions handle the powers of life roughly ; the overburdened soul crowds the body to the earth. Whom do I know, then, who can teach me how to open a way for Death into the citadel of

Life? Or, through the gateway of the soul, to admit death? Ah, what an original work! Who can do it? A work without parallel! Think for a moment, Moor. That, indeed, were an art that would merit to give thee honor, as an inventor. The art of poisoning has been carried to such a grade of perfection, as to give it the rank of a science; by it Nature has been forced to yield up the secret of her power of endurance, so that, for years before hand, one can tell the strokes which the heart has still to beat, and say to the pulse, Thus far and no farther shalt thou go. Who would not try his wings here?

"And how must I now go to work, in order to dissolve this sweet alliance between the soul and the body? What kind of sensations must I select, which will most violently attack the foundations of life? Anger? The fierce hunger of this voracious wolf is soon satisfied. Care? This worm gnaws too slowly. Grief? This adder creeps too slowly for me. Fear? Hope does not allow it full compass. What! Are these all the executioners of man? Is the arsenal of Death so speedily exhausted? How now, what? No! Terror! What is there Terror cannot do? What can Reason, what can Religion do against the icy embrace of this giant? And still, if the old man should withstand all this, then what? Oh, then come to me Sorrow, and thou Regret, thou infernal fury, thou undermining serpent, who ruminates and consumest thy own excrements, eternal destroyer and eternal creator of thine own venom; and thou, howling Self-accusation, who layest waste thy own house, and woundest thy own mother. Come also to my aid, ye kind Graces, thou gently smiling Past, and thou, flowery Futurity, with thy overflowing horn, present before him, in your mirrors, the joys of heaven; and then, with swift feet, fly from his greedy hands. Thus will I attack, stroke upon stroke, and storm upon storm, this fragile life, and finally I will close the list of my destroying troop, by adding Despair. Triumph, triumph! The plan is finished; profound and cunning, as no one ever devised before; certain, sure, since no dissecting-knife can find a wound, or a trace of poison."

As Franz von Moor thus calculated to destroy life with the invisible poison of mental torture, so, with equal certainty, in your

future mission of benevolence, you will find that you hold the magic power of releasing, by purely moral force, the victim of disease and impending death. For, besides the changes which the human body undergoes by disease, which, thus far, have been your chief study, your coming career of practice will open new fields for your observation and study, viz.: the changes which the mind undergoes under the influence of disease. We hear, now-a-days, such novel questions as the following: "Will the coming man drink wine?" Or, "What will be the religion of the coming man?" If the question should also be asked, "What will be the character of the coming sick man?" The reply must be, "The same as of the past." Disease, as a rule, saps the foundations of courage, and makes the hero irresolute, timid and cowardly. One of the bravest men I ever knew, said, after a long illness, "I have been sick so long that I have become a perfect coward." The man who, under the inspiration of perfect health, recklessly exposes himself to the greatest perils, when sick, shrinks from the merest nothing, "a shadow of a shadow," in fact, is truly a child again. An imperial Cæsar, when languishing under a fever, exclaims:

"Give me some drink, Titinius, like a sick girl."

Not less, therefore, than his bodily pains must you study the moods, the humor, the whims, caprices and notions of the patient.

Most sick persons look to their physician for courage, inspiration, in fact, for both mental and physical support. The patient is standing upon the narrow bridge that spans the river of Death, of which Disease is undermining the feeble supports; the whole structure, with its trembling victim, threatens each moment to fall; his eye is fastened dependently and beseechingly upon you; if, with unwavering courage and unfaltering confidence, you can but hold his eye from the destroying flood that rolls beneath him, you will rescue him; he will regain the shore of life, and live again. Or, to borrow another figure, life is like a candle, which, exposed to the tempest of disease, threatens each moment to be blown out; the physician's duty is to offer a screen of protection to that light; and if he can but preserve the flame alive, though it be reduced to the very verge of expiring, it will live and soon regain its

wonted proportions again ; but, once allowed to perish, he might well exclaim with Othello :

> " I know not where is that Promethean heat
> That can thy light relume."

The physician will find but few endued with that native resolution of which Charles the Twelfth of Sweden offered so heroic an example, who, when wounded and requiring an exsection of one of the bones of hisancle, held the foot himself, and told his surgeon to cut boldly. Few are possessed of a courage equal to that of a Benton, who, when an insatiate cancer was gnawing away at the very inner posts of existence, could lie and assort from his memory the materials of a "Thirty Years Annals," the last lines of which were dictated in a whisper,—thus transferring, as it were, the undying treasures of his mind from the falling citadel of life to the imperishable archives of History ; few are like the young and noble Körner, who, when mortally wounded, could dip his pen into his wound, and, with the blood that was flowing and bearing his soul with it, could write, as he did, the following lines :

> " My wound burns, my pale lips tremble,
> I feel, in my heart's weakening pulse,
> That I am standing on the shore of death.
> Courage, Courage! That must still live with me,
> Which has been so faithfully enshrined in my heart.
> Before me, Love, Liberty, I see,
> Standing, like Seraphs, as one breath bears me
> To the mountains tipt with the morning-flush
> Of Eternity. "

Few, I say, are the examples which you will meet of this kind, yet you *will* meet them, and, when seen, they will inspire you with pride for your race, and renew your love for your profession. As examples of moral sublimity, they will rival not surpass, in the emotions which they will awaken within your heart, whatever is great within the domain of Art or Nature.

The profession to which, this day, you are admitted, does not unreservedly and unconditionally receive you ; in giving, it again expects something in return ; it exacts from you bonds, that you will honestly use its treasures ; bonds in which the consideration

stipulated is not in currency, silver or gold, but a material far more valuable, which cannot be coined or engraven, viz.: *honor*. For thus confiding to your guardianship the keys to her treasure-safe, in which the uncounted wealth of the intellect of twenty centuries has been stored, she demands from you an incorruptible, ever vigilant honor. There is no profession where there are more temptations and opportunities to act unjustly than in ours. Let me here notice a few of these. Often you will hear the name of your professional brother assailed, and his character unfairly dealt with; in such a case, you will not be a silent listener, thus tacitly sanctioning what you hear, but, if you are endued with that true spirit of honor which is always found in the just and upright physician, you will repel such imputations, and thus, as a champion of truth and fair play, you will not only lose nothing, but will be a double gainer, since, thus acting, you will win the esteem of both assailed and assailant. Trophies won by unfairness will bring no satisfaction to yourself, but, in the eyes of others, will, in the end, render you despicable. Turn your eyes to past history, or even to the immediate present, and many instances arise to prove what I have here stated.

Again, all that which is great, good and enduring is the slow product of years. Jenner was half a life-time in collecting and comparing observations which led to the discovery of vaccination; the poet Gray revolved his "Elegy" many years in his brain ere it took the grace, form and beauty with which he gave it to the world. The same law has governed and still governs the successful career in Medicine. The majority of eminent medical men have had a period of severe probation during the early years of their practice. To avoid the trials of this early period of waiting, the seducer, Charlatanism, hangs out its allurements, and whispers in the ear of the young man that there is a nearer pathway than the old road to success. Why double the Cape when you can so readily steam through the Straits? Get your name before the public by illegal advertisements, as the discoverer of some remarkable medicine, or the performer of some wonderful operation. This is a second method of disgracing your vocation. When such temptations knock at the door of your heart, give them no admission. When wealth bids you come by these paths, and pluck golden apples which she enticingly waves before you,

remember that a serpent lurks amidst them, ready to sting him who plucks; for, as Boileau says:

> "Honor is as an isle with insurmountable banks,
> Which, once abandoned, never is reached again."

In the practice of your profession there will be many opportunities and occasions offered to take advantage of your professional brother; for example, if a series of ill luck, of disastrous cases has fallen to his lot, where no skill, art or science could foresee or prevent a fatal termination, it will often occur that importunate friends will use every means to induce you to array yourself against the unfortunate physician. But if you will follow those promptings of honor which have a home in every honest breast, you will spurn such offers, and, in so doing, you will not only have that satisfaction which invariably accompanies upright action, but, measured by far-seeing policy, such a course will always be found shrewd and sagacious, since it is a rule, with few if any exceptions, that he who injures, surely places himself in a position to be injured; for the scales of justice do not always sink on one side alone, since an unbiassed Nemesis stands beside them, and with a severe equity that knows no compromise, reverses weight and article weighed, and thus, sooner or later, vindicates the side of right.

Your future success will depend not alone upon your scientific attainments; you must possess all the qualities which make the gentleman. As this is a large field, I will touch but a few of the leading objects which it presents. From extended observation, I would select, unhesitatingly, as the cardinal virtues of the medical man, patience, industry, temperance, and a due respect for the rights of your professional brethren. The careers of the most successful among you will be but a series of victories and defeats; victories so great, so brilliant and complete, that an Alexander might be envious of them—where, as the leader of the forces of life, you have met those of disease, and have thoroughly routed them, and conducted the imperiled patient back to health again; but, on the other hand, it will often happen, that where you have used every effort, and with untiring vigilance have done all that medical art could do, yet you have been baffled, disappointed and defeated, so that an inconstant

public reaches forth its hand and plucks from your brow the laurels it had but yesterday entwined there ; hence, need I tell you that, in a profession where disappointment is ever an accompanying shadow, infinite patience will be needed? The sick man and his friends look anxiously for your arrival ; the hour of your coming is impatiently looked for,—hence you should be prompt and punctual in your visits,—that is, be industrious ; and besides, I would say, that if industry be needed in the outset of your career, it will be quite as much so when you have reached the summit of success, in order that you may retain your laurels ; for the old Roman Æmilius was not far out of the way, when he adopted the practice of praying the most earnestly to the gods when he had just won a victory.

Intemperance will steal from your purse your earnings, will sour your temper, will harden your heart as well as your brain, and bring you the unenviable compliment, "He is a good fellow—it is a pity he drinks ;" on the the other hand, temperance will give you a smooth temper, a steady mind and a steady hand.

In your office-book of duty and virtue, I have pointed to and underscored *patience, industry* and *temperance ;* I now call your attention to another, viz. : A DUE REGARD FOR THE RIGHTS OF YOUR PROFESSIONAL BRETHREN,—and this virtue I will underscore twice ; and if the former three be cardinal points of your future professional voyage, the last one should be the main one, the starting-point from which the others are reckoned, and, truer than the pole of the mariner's compass, it should be immovable and without variation.

Equipped, then, Gentlemen, with these principles of science and virtue, you will go forth to the world upon no uncertain mission ; a high and noble sphere will be yours, since to you suffering humanity will ever turn its eyes for aid and relief. Now, as your Alma Mater bids you adieu, she would fain say, as she clings to you in parting, never prove unworthy of the great profession into which, this day, as equal members, she has introduced you ; and, though Fame as yet sounds no note in your behalf, still, if you will turn your ears and listen closely, you will catch the sounds of her trumpet echoing from the early-coming years.

INTRODUCTORY LECTURE

TO THE

EIGHTH SESSION

OF THE

Medical Department

OF THE

UNIVERSITY OF THE PACIFIC.

Delivered July 5th, 1870.

By HENRY GIBBONS, M.D.,
Professor of the Principles and Practice of Medicine.

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INTRODUCTORY LECTURE.

Doctors are proverbially ungovernable. They appreciate order and discipline, but in others rather than in themselves. The germs of insubordination appear to be infused in the blood of the student by the dry bones and the cadaver of his novitiate. Given one-half the doctors in any community, to dictate and rule, and another half to submit, there will be perpetual harmony in camp. But the proportion of non-resistants is never so large as fifty per cent. In California, it is not much over five. In the beginning, twenty years ago, it was still less. Society was then in its infancy—a villainous infancy, one might say. There was no medical profession, properly speaking. The early-comers mostly inclined to pursuits of which they knew least. They eschewed occupations to which they had been accustomed. Graduates of the University of Pennsylvania opened restaurants, and Fellows of the Royal College of Dublin sold ale and pea-nuts. *Per contra*, barbers and boot-blacks practiced medicine.

In the progress of society, there was felt the need of association. It was time to separate the wheat from the tares. But even if the tares could be distinguished and weeded out, the varieties of wheat were numerous and perplexing. This western focus, even then a metropolis, had attracted craftsmen from all quarters of the globe—from Germany, France, Italy, Britain, Australia, as well as America—strangers to each other, in manners, in language, in every thing. It was the confusion of Babel renewed, only worse, for that was relieved by dispersion.

It is an index of the times that the only issue of the first Medical Association on the coast, was a fee-bill; and a glorious fee-bill it was! For a single visit, or advice, two ounces—that is to say, thirty-two dollars—and so upward, through the hundreds. The charges for amputations were a magnificent premium to the surgeon, and citizens were fearful of losing their legs for the benefit of science. They were struck with terror, like the ancient Romans under the surgery of Archagathus; and, like the Romans, they would have banished all the doctors, but for the high rates of passage. Physicians hastened to publish cards disavowing all connection with the fee-bill, and child and mother both died within the month.

In 1850, the fee for a visit, or advice, fell to half an ounce, or eight dollars. Just then arrived, and coming from Philadelphia, where one dollar was sometimes a bold charge, I doubted whether it was in my power to do eight dollars' worth of good to a patient at one sitting. But, after paying two hundred dollars, in advance, for an up-stairs room called an office, with the chances running largely in favor of a conflagration before midnight, and after a month's sickness, at the end of which I paid a contraband three dollars for shaving, I accepted the situation with an easy conscience.

My first patient looked like a beggar. As he grumbled out his ailments, I resolved to act the good Samaritan, and do my share for his relief. I prepared him some medicine, and handed it to him, with directions. To my surprise, he thrust his hand in his pocket, and drew forth that long, buckskin purse, which every Californian carried in those days, inquiring, gruffly, "What's the damage?" With hesitancy and apprehension, I answered, "Eight dollars." To my amazement, the miserable creature exhibited no consternation, but tossed an eagle on the table, and turned on his heel. In the surprise of the moment, I forgot the difference between eight and ten till he was at the door, when I modestly suggested the matter of "change." "D—— the change!" he ejaculated, contemptuously; "all I want is to get well." I stood a few moments, thinking of angels

in disguise, and so forth, and ever since have entertained the most kindly feeling toward California beggars.

But I must resist the temptation to tell the story of those early times, and proceed with my historical sketch of medical associations. The Pathological Society came next: so called, because it was always in a pathological condition. A few choice spirits, segregating themselves from the common herd, assumed to be the Profession. Like another distinguished body—the French Academy—their number was limited. Their meetings were secret, and what they did for science never transpired. The Pathological Society lived and died stealthily, leaving, as the only visible trace of its arduous labors, a pyramid—somewhat smaller than that of Cheops—composed of empty bottles and oyster-shells.

In the year 1852, was formed the first open Medical Association. After public invitation, a number of physicians assembled, and set to work with good intent to organize a Society. Meetings were held, the interests of the profession were canvassed, a constitution was adopted, and a time appointed for the election of officers. At the election, a throng of individuals, who had been on the watch without taking part in the work, stepped in and seized the offices. It was the old story of the eagle and the fish-hawk, from which Californians have profited extensively in other lines of pursuit. Upwards of seventy voters were enrolled on the occasion of the election of officers, but there never was another meeting so large. The Society lived for several years, a few of the members attending regularly and doing the work, while the remainder came in once a year to elect themselves to office, and occasionally, besides, when a quarrel was on hand. By the constitution, the right of voting was restricted to persons who had paid their dues. But the raiders, in their annual incursion, would suspend the rules, and vote themselves in without paying.

Meanwhile medical societies were formed at Sacramento and several other places, and a State Society was organized in 1856. The latter flourished for a number of years, but finally received its death-blow in an attempt to expel a

member for some alleged misconduct. This is the rock, let me say, on which three out of four medical organizations have foundered. There are men in our profession everywhere who insist on making the Society a theatre for canvassing private or personal quarrels. It is in the power of a few individuals to destroy the harmony and usefulness of large bodies by such conduct. Witness the late meeting of the American Medical Association. Better submit to a seeming evil than aggravate it by injudicious meddling. One would scarcely attempt to cure a headache by tying the carotid; or amputate the foot on account of a corn.

The failures referred to not only tended to discourage associated movements among medical men, but they brought scandal on the profession. An impression obtained that physicians in California were quarrelsome, and that they were divided into cliques and parties. I am sorry to say that some within our ranks have taken pains to propagate this idea. That it is an error I have not the slightest doubt. The fault rests with a few individuals, and not with the mass. As a body, the physicians of this coast are as free from petty jealousies, and as open to social and professional intercourse with each other, as those of other regions. And they are certainly not inferior in natural capacity and professional attainments.

Profiting by the lessons of the past, Societies springing up more recently have taken care to shut out personal controversies, and have concentrated their labors on the culture of medicine. They have become in reality medical schools, in which the members have acquired much valuable knowledge, and from which they have contributed freely to the public fund through the press. I refer especially to the Societies at San Francisco, Sacramento, and Oakland. In view of the annual session of the American Medical Association to be held in San Francisco in May next, we may look for the organization of other Societies at the centres of population, and the reorganization of the State Society. Present circumstances are highly favorable to a revival of medicine on the Pacific Coast.

About twelve years ago, a few medical gentlemen in this city conceived the idea of founding a Medical School. At the head of the school was the late Prof. E. S. Cooper—a man of genius, an original thinker, an indefatigable student, an enthusiastic and brilliant surgeon. Cooper possessed that quality without which the knowledge gathered by a man is of no use to the world and of little use to himself—namely, the disposition to impart it to others. It has pleased God to stamp this feature very generally on the character of those who love to study the works of His mighty hand; and thus we find in the world of intellect a generous and distributive spirit which does not exist in the lower spheres of pursuit. The true love of knowledge is the love of giving as well as receiving. He that absorbs and retains is a mere sponge in society. The possession is nothing if buried in the earth. Knowledge, like money, must be kept in circulation to do good.

Cooper was just the type of a useful scientist. He loved to learn; and as he gathered and enjoyed the fruits of the tree of knowledge, he looked around for hungry souls like his own, with whom to share the feast of good things. Gathering about him a few individuals of kindred taste, he started the project of a Medical School. There was no requirement for it at that time. But the position and prospects of San Francisco, as the great emporium of the West, would soon demand such an institution. The projectors began their work by lecturing to each other. There was no money in it, and for this reason it was an extraordinary movement for those days. Nor was there renown, or even any inducement to publicity. On the contrary, they felt like Franklin, when he stole away quietly with his son, to the outskirts of the city, on the approach of the thunder-storm, to raise his kite to the clouds and to bring down the lightning which should emblazon his name on the skies forever.

In the course of time, our bold pioneers organized a Faculty and procured a charter from the first University ever established on this coast—the University of the Pacific.

At first, their class of students was merely nominal. But they persevered, and soon had the gratification to find a very respectable array of twenty-four matriculants gathering around them. At six successive periods they had examinations and issued Degrees, until the whole number of graduates had reached thirty.

And now, one word about those thirty graduates. Under all the circumstances, it were not surprising if they had not made a brilliant record; or if many of them had entered the temple as a matter of form, and subsided into nothingness. But such was not the case. When George the Third made his coronation speech, and made it in good style, it was very natural for his old preceptor, who sat in the audience, to exclaim with ecstasy, "I taught the boy." And so you will pardon me, as one of the old Professors of the University of the Pacific, though not one of the pioneers, for myself and for my colleagues, to challenge inspection of that list of doctors, the first that were ever diplomatized in this great Pacific Empire. As far as we know, not one of the number has died. Not one has fallen a victim to that Moloch of our profession, the inebriating cup. Most of them are within the range of our personal observation, and are engaged in the active pursuit of their calling. They hold, and have held, positions of honor and profit in public institutions and in the service of their country. I am prepared to say, deliberately and confidently, that never did an equal number of medical graduates from an American school better sustain the honor of the profession, or reflect more credit on their Alma Mater.

But when did those who projected and built up an enterprise in California reap the benefit of it? When did the hands that delved and planted gather the harvest? *Qui palmam meruit* NON *ferat*—is the motto of modern times. At the juncture when the industry and toil of the Faculty had culminated in success, a rival appeared. A gentleman who had gained distinction and amassed a fortune in the practice of medicine and surgery, erected an edifice for a Medical College, and called around him a corps of Profess-

ors. The original Faculty must either succumb, or engage in a competitive struggle. Cooper was dead. Two schools could not be sustained with credit to either. Rather than embark in a contest which might involve personal animosities, and injure the character of the profession and lower the standard of medical education and the value of a diploma, the Faculty of the University decided to suspend operations. Several of their number being invited to Professorships in the Toland College, they accepted, on condition that the graduates of the University of the Pacific should have an *ad eundum* Degree, if they desired, free of cost, from the Toland College. It is creditable to the former school, that its alumni so appreciated their diploma, that only one of the number ever applied for the privilege extended.

Several years have elapsed, and the hopes entertained by the Faculty when they withdrew from the field have not been realized. The Toland School has not accomplished their expectations. Professor Morse, their cherished associate, was compelled to resign, on account of ill-health. Additional causes, which it would be unprofitable to mention, have led to the withdrawal of several other members of the Faculty, and the reorganization of the Medical Department of the University of the Pacific.

It is worthy of remark, that the seven Professors who filled the chairs of the University at the time of the suspension, four years ago, are all connected with the present reorganization. Some changes have been made from the ordinary programme, in accordance with the recommendation of the Convention of Teachers, under the arrangements of the American Medical Association. The course has been prolonged to five months, to admit of more full instruction on branches which it is impossible to teach in the brief space usually allotted to the course. Two new chairs have been formed—on departments of special importance on the Pacific Coast—one of them embracing Ophthalmology, a subject now so extensive that it is impossible to do it justice otherwise than by making it a specialty. In the means of illustration we have the benefit of the apparel ac-

cumulated in former years, with many recent additions. Our collection of plates and models can not be equaled on this coast. For the first time in the history of medical education in California, a complete and extensive laboratory will be placed in requisition to illustrate the chemical lectures, and to give them that practical application which is especially demanded by the conditions of life and business on the Pacific Coast.

Every succeeding year adds to the importance attached to clinical instruction by medical schools. A deficiency in this respect can not be supplied by the most extensive and profound requirements in other directions. It is now an acknowledged principle that a medical degree should never be granted unless the recipient possess a practical knowledge of diseases and their treatment, to be acquired only at the bedside. With this in view, the Faculty have made ample arrangements for clinical instruction, in which most of the Professors will take part. It gives me much pleasure to state that the managers of St. Mary's Hospital—one of the best-constructed and best-conducted institutions in the State—have kindly offered the privilege of their wards, for this purpose.

An arrangement has also been made to establish a Dispensary in connection with the Lectures, which will afford to the class all the material for clinical instruction which can be profitably applied. A number of our druggists have generously agreed to furnish the medicines for this purpose, so that the poor, who apply for relief, may be supplied both with advice and medicine. In this connection, opportunity will be afforded to the students to inspect and to handle the medicinal agents, and to exercise themselves in the art of Pharmacy.

Experience has shown that the system of Lectures is incomplete, and, in fact, inadequate for the purpose in view, without private instruction, through examinations and otherwise. In many schools, special provision is made for this, on so extensive a scale as to involve much additional expense to the student. In one of the prominent Eastern

colleges, the cost of tuition is nearly if not quite doubled to the candidate for graduation by private teachings, which, though optional with him, are deemed too important, as a guarantee of success in the final examination, to be neglected. The Faculty of our school, let me say to the young gentlemen who may favor us with their presence, have determined, one and all, to adopt a systematic course in this respect, and to spare no labor for your interest and advancement, outside of the exercises of the lecture-room. We want no drones, either at the desk or on the benches.

Thus equipped, gentlemen, and in full view of the responsibilities of our position, we invite you to the field of labor, and to the reward of toil and industry. The Diploma of the Medical Department of the University of the Pacific, hitherto a badge of distinction and honor, to which we proudly refer, shall not be of less value in the future than it has been in the past.

It is probable we are on the eve of a revolution in medical education. The facility with which diplomas have been obtained in some quarters, has rendered the degree almost valueless, as an evidence of merit, besides tending to degrade the profession in the eyes of the world. An organized effort to correct the evil was inaugurated by the National Association several years ago; but hitherto little has been accomplished, further than to recommend plans of improvement. The work, however, is not ended. Such reforms are always slowly accomplished. They come like the changes of the seasons—with tides and fluctuations, which disappoint at the moment, but with certainty of the final result.

The principal changes that have been mentioned, are these:

1. To require of the student a preliminary education in languages and other branches.

2. An extension of the term of study, and the attendance of three courses of lectures.

3. An examination at the close of each course.

4. A modification of the lectures so as to adapt them to the advancing *status* of the student.

It is doubtful whether a knowledge of any of the dead languages will ever come to be required in our country, as preliminary to a medical education. But an acquaintance with the English language, and with the branches of study taught in our common schools, ought to, and I have no doubt will, be required before many years.

In regard to the term of study, if the three years now nominally required were really employed in study, the term would be long enough, at least for present purposes. And unless the three proposed courses differ considerably from each other in an advancing series, it is questionable whether the time would not be much better spent in private study than in the third course. But by making the courses progressive, a great good would be obtained.

But the rivalry of schools, the favoritism of professors, and the power of money to purchase degrees, will continue to degrade the value of an American diploma, until the privilege of conferring degrees is transferred to impartial and independent tribunals. I am more inclined to look for a remedy in this, than in any other direction.

Here in California, there is now an excellent opportunity to take a leading position in the reform. Our prominent educators have been exercised for years in devising a system by which educational institutions shall be put on a common basis, and degrees granted by one common source. The University of California presents an agency through which this can be accomplished. It is understood that most of the existing institutions of literature are desirous of making this affiliation, and that a law will be adopted at the next session of the Legislature, to carry out the plan. When this is done, all examinations for degrees will be conducted and degrees conferred by one Board, under the supervision of the State University, and diplomas will have a real and a constant value.

On this plan the London University is conducted. It is, in fact, not an educational institution, but merely an organization for the purpose of applying an exact and uniform test to the labors of schools, colleges, and universities.

Hence comes the very high value attached to the diploma of the London University.

The most strenuous effort is now made by British educators to extend the system to the entire kingdom, and to have a single examining Board, and a single authority for conferring degrees, in Great Britain. That the effort will be successful in the end, is the belief of all who appreciate the resolution and ability of our British brethren.

Now is the golden opportunity for California to signalize herself by taking the initiative in this grand reform. Her University is capable of a future seldom possible to such an institution. It is to be hoped the Regents will fulfill their trust with a single eye to the public good. Unfortunately for our country, the curse of political proscription and political favoritism has crept into every avenue of pursuit, and perverted even literary and scientific institutions to extraneous and selfish ends. It is like the abomination of desolation, occupying high places, and threatening universal ruin. Let us fervently pray that our State University may escape its paralyzing, its damning influence.

It is a question whether Medical Degrees should not be conferred on the simple ground of the possession of sufficient knowledge, without reference to time or mode of education. If the candidate be able to pass a satisfactory examination, what matters it whether he have studied three years, and attended two, or three, courses of lectures? Objection is made to a brief period of education, on the ground that the knowledge obtained by cramming is soon effaced. Unfortunately for this argument, the education of our institutions of learning, of all kinds, is little else than a system of cramming. Those who can cram the fastest, lead off in the honors.

There exists in some quarters a prejudice against a home education. Parents on this coast must send their children to the Atlantic States; and parents on the Atlantic send to Europe for the same reason. It is singular logic, that would have a youth educated among a people remote from where he is to dwell. Especially is this remark applicable

to a medical education. Every country has its peculiarities of climate and of diseases, the study of which must enter into the proper education of the pupil. It may be well, if time be at command, for a student, after laying the basis at home, to go abroad for a season, and procure a finishing. But when this course is reversed, and the basis laid abroad and the finishing done at home, the young doctor is like Ephraim of old—a "cake unturned."

It is sometimes said that Medicine is not a science. Technically speaking, this is true; but practically, it is the science of sciences, which subsidizes to its use almost every department of human knowledge. To be well educated in Medicine, involves the widest scope of investigation of which the human mind is capable. It not only amplifies the sphere of intellectual effort, but cultivates the social and moral qualities, and instills deeply in the heart the sentiments of benevolence and philanthropy. The life of a physician has many troubles—many sorrows. It involves the most delicate and painful responsibilities. It exposes to undeserved reproach, and to the basest ingratitude. But it has a sunny side, where the sky is never wholly clouded. It has a deep under-current of calm satisfaction, and of conscientious comfort. With all its annoyances and evils, there are few, who engage in it for a series of years, but find themselves bound to it by ties that they can not sever. To this most sacred of all secular pursuits we now give you an invitation and a welcome. Hand in hand, and heart to heart, we will tread together the meandering paths, sometimes flowery, sometimes thorny; and we shall make your success our success, your fortune our fortune, your reputation our reputation.

MEDICAL DEPARTMENT

OF THE

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J. P. WHITNEY, M.D., Emeritus Professor of Physiology.

HENRY GIBBONS, M.D., Professor of the Principles and Practice of Medicine, and Clinical Medicine.

L. C. LANE, M.D., Professor of Surgery and Surgical Anatomy, and Clinical Surgery.

EDWIN BENTLEY, M.D., Prof. of Descriptive and Microscopic Anatomy and Pathology.

R. BEVERLY COLE, M.D., Professor of Obstetrics and Diseases of Women.

ISAAC ROWELL, M.D., Professor of Diseases of Genito-Urinary Organs, and Orthopedic Surgery.

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Fees for the full course	$130 00
Matriculation Fee, (paid but once)	5 00
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The great and growing importance of Diseases of the Eye and Ear, and the extensive discoveries and improvements recently made in that direction, have led to the establishment of a Professorship on that branch; and a Professorship on Diseases of the Genito-Urinary Organs has also been instituted, to meet the special requirements of the Pacific coast.

For further information, application may be made to the Dean.

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NINTH ANNUAL COMMENCEMENT

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OF THE

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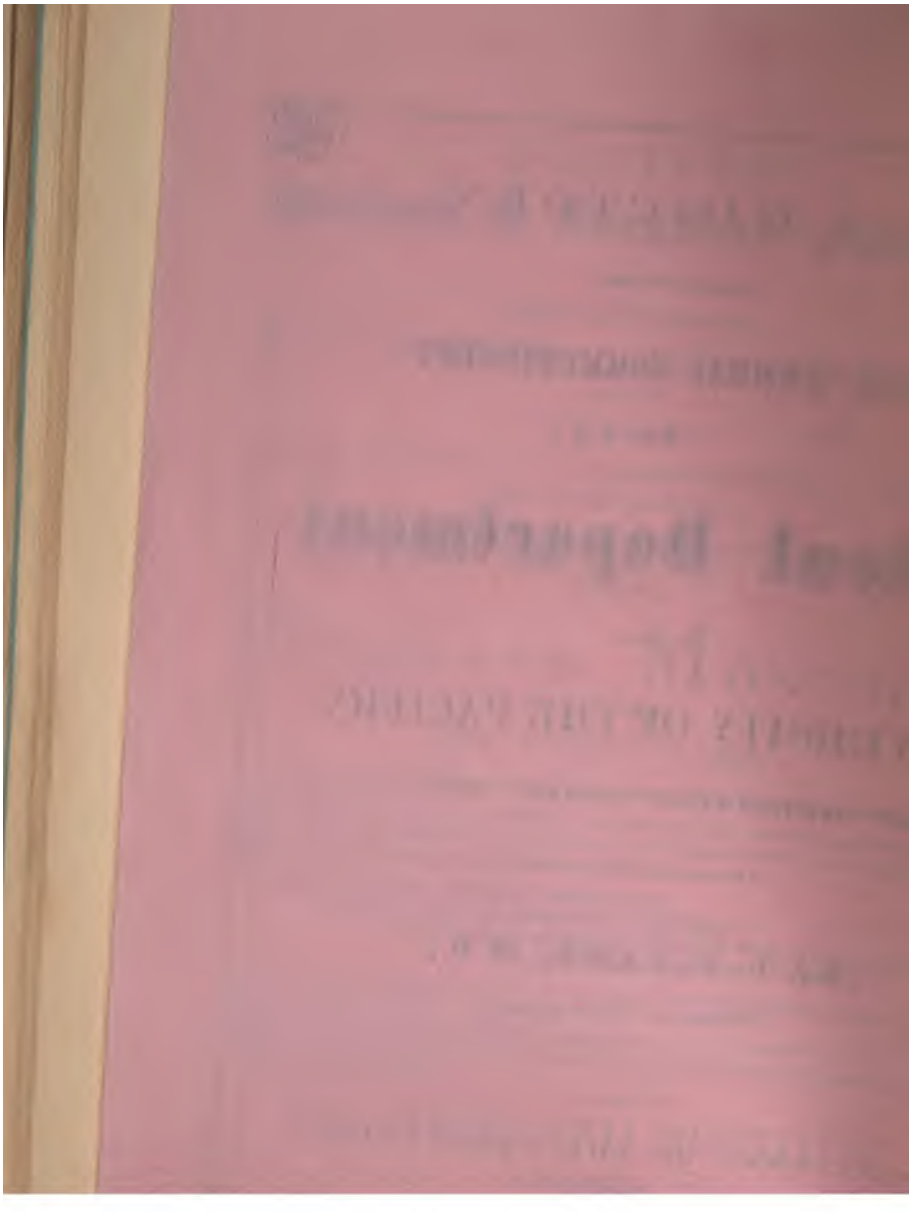

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VALEDICTORY.

GENTLEMEN OF THE GRADUATING CLASS :

The occasion which your Alma Mater this evening celebrates—the marriage of five of her sons to the profession of their choice—the launching of their barks upon the sea where the great battle of life awaits them—is one of such importance that she would fain ask you for one more audience—ask to speak a few parting words. The young man on the eve of leaving his home, to take part, as an individual, in the struggles of life, often finds long, tedious and prosy, the words which parental caution whispers in his ear, but ere the career of life is finished, his mind runs back to such words, and memory holds fast to them as precious treasures, As your Alma Mater invests you with the battle-cloak and shield, she expects you so to wear them as to bring no dishonor upon the lineage and escutcheons of the old and noble race to which, this night, you are legally wed.

Methinks I hear some of you ask, *how* may we so wear the chlamys and bear the shield, as to satisfy the hopes of the institution which now grants us its highest honors, of the profession with which these honors affiliate us in the future? I will endeavor to answer your question.

First of all, a physician is expected to be an educated gentleman. He is expected to be *educated*, not in the trite meaning of this term, but in a manner universal and encyclopedic in character. Some imagine the physician's attainments to be a kind of seven-toned harp, whose several strings shall ring individually a chemical, anatomical, physiological, obstetrical, therapeutical, surgical, and chemical note; such notes, indeed, his harp should give, clearly and without defect, but his learning should reach much further—it must and embrace all the objects of nature and their phe

Hence a lifetime is but a short period for such a curriculum. But of this anon.

The physician must be a *gentleman;* nor do I mean this in its modern, ill-used sense; but in its primitive meaning, before conventional usage or affectation had disfigured and perverted the term; when it implied character in which courage was wed to gentleness, heroism to humanity, broad intellectual culture to simplicity, self-respect to a sacred respect for the rights of others; in fact, as the great dramatist has it:

> "A form and combination, indeed,
> Where every god did seem to set his seal,
> To give the world assurance of a man."

The profession to which we introduce you, expects from you earnest work; thorough, untiring and undivided devotion; a fixed resolve, an unflinching purpose to add something to the common treasury of medical knowledge. With a determination like that of Alaric of old, who, when repulsed before the gates of Rome, vowed that either as a victor he would give the land as a heritage to his people or it should give him a grave, you should resolve to give to the future for a heritage at least one new fact; such determined resolution cannot be baffled; sooner or later triumph crowns it; for though Rome gave to Alaric an unknown grave, yet, to his followers, full of inspiration drawn from their leader, it gave a realm. You who are full of hope, of enthusiasm, and of the future, let the great ones of the past inspire you, and never rest till you have added one truth to the public domain of medical science.

One apparently unimportant observation may bring with itself immense results; witness that of Galileo of a swinging lamp in a church at Pisca, his deduction therefrom of the laws of the pendulum, the consequent construction of accurate time-pieces, and finally the chronometer, which, next to the compass, the mariner takes for his guide on the deep. Witness the observation that a frog's legs were convulsed when two different metals were caused to touch its sciatic nerves, thence the construction of the Voltaic [illegible] ce of a ma-

chine which enabled Davy to revolutionize chemistry, and finally gave mankind the means of transmitting thought more rapidly than thought itself; such the gift conferred upon the world by the simple observation of an Italian physician. Science, in return, has immortalized him by giving to one of its most noble sections the name of *Galvanism*. And still again, the apparantly trivial observation that the milkmaids in the rural districts of England were comparatively exempt from small-pox, was the first link in the chain of facts which led to the discovery of vaccination, thereby shielding mankind from the mephitic breath of the most cruel of plagues; for as Chalcas the sage,

> "Whose comprehensive view,
> The past, the present and the future knew,"

By his wisdom taught how to appease the plague-god, who, "going forth like Night," breathed death among the Achaian forces before Ilion, so did Jenner, by the magic touch of the lance-point upon the arm, teach his generation to escape this most loathsome disease; and the boon did not, like the services of the sage, expire with his own generation, but will continue to be the inalienable heirloom of all future ages.

The instances cited are enough to show how the slight suggestion of a cause may teem with great results, and as monitors on the highway of time, they inculcate the importance of observing, noting and recording every new fact; for such observation may, like the attractive force which the rubbed amber acquires, or the curve which the swinging lamp makes, become as the germ of a tree which, springing up, bears flowers and fruit, for the cheer and sustenance of generations present and future.

And to *you*, gentlemen, whose years yet rejoice in youth, and whose minds, fertile as an alluvial soil, and warmed by enthusiasm as by a tropical sun, are destined, if properly cultivated, to yield a rich harvest, to *you*, standing face to face with such monitors as incentives, we look with confidence for a kindling in your hearts of an ambition to work and struggle for a place

by the side of the great and the worthy of your profession.

In these remarks do not understand me as urging you to seek only for an immortality, and especially would I admonish you not to expect it too early. Young men are often too anxious to leap into the sphere of the immortals. To such I would say, remember Icarus, who vaulted too far aloft on the wings which he himself had made; his pinions were melted by the sun and he tumbled down into the sea; and it is not probable that you would be so fortunate as to have, like him, a sea named for you. Neither would I have your flight too low, lest, Gambetta-like, you might be wounded by an enemy's shot, and, less fortunate than he, your balloon also might be wounded.

But now, if ever you are to do it, is the time to make your resolves, to lay your plans, and to launch yourselves each into an individual orbit, in which, like a planet with permanent momentum, and well-poised motion, you will ever move with an individual identity, undisturbed by any agency internal or external.

In such a character the world looks for something more than a gentleman with educate dintellect. His heart must likewise be educated; and in such a heart the passions and emotions will be found of vigorous development, but thoroughly subdued. For if these be absent then the man might live, and even wear the imperial purple as did the sons of great Theodosius of old, for two or more decades, and yet scarcely leave a trait of personality to which the historian could point. But if the passions are given the ascendant, their unhappy victim is even worse than a planet freighted with internal detonating elements, which, if bursted, leaves monuments of a former existence in surrounding asteroids, while the man, sinking in the vortex of ruin, leaves naught save a dark and charred image in cotemporaneous memory.

For this training and discipline of the emotional nature, your professional career w[illegible]d a rich

field. The young physician soon learns that he cannot please every one. To some he will find himself personally disagreeable; others dislike to see a young man advancing so rapidly, and such would seem to look upon themselves as having a special mission to throw impediments in his way. Such love to throw his character on the gridiron of criticism, the bars of which have different degrees of temperature, varying from ice-cold, through fever-heat, up to red-hot; the first represents those who say he is a very learned man but we don't think he will make much of a physician; and from the same ice-point comes the wily, left-handed thrust of the old professional brother whose vision is somewhat jaundiced by envy, whose apprehensive ken fears being displaced, who says, he would be a good physician or surgeon if he were not so unlucky in his cases. The second grade of censure is represented by those who have a tolerably well-defined aversion, as shown in the pretty placidly spoken remark that they would not have you to treat their canine. And lastly the red-hot type of censure will appear in the shape of keen, bitter hate, and will come with wasp-like venom in the words, I wouldn't have him to doctor a sick feline for me.

Again, the very nature of the practice of medicine is of a character calculated to develope all the higher moral virtues, those, in fact which distinguish the refined gentlemen from the coarser man. Need I recite the prosperous and adverse endings of human ailments, giving alternate shadow and sunlight to the practice of every physician. Like a pendulum his life vibrates between victory and defeat. The vanity which might arise from the one, runs no risk of extraordinary development, since the envious hand of the latter quickly plucks it up by the roots.

One of the most talented young physicians I ever knew, as one of his earliest operations had a case of ovariotomy; much depended on the result; all the energies of his mind were bent to throw around the pa-

tient every circumstance which could favor recovery. Not recovery—but death—came and lifted to the lips of the unfortunate woman his cold chalice as the only reward for her daring. I have never seen disappointment touch more cruelly on the heart of any one, than did the loss of that patient this young physician; but with that philosophy which springs from a well disciplined mind, he said, "For me perhaps it was better that it failed, for such a triumph at so early a day in my career, might have made me inordinately vain."

Besides the discipline which the practice of medicine, from its inherent nature, will give your minds, the examples of noble character which the sick-bed will present, will be of a nature to widen and lift up the moral sentiment. The battle-field with its wild clash of arms, the roaring cannon, the trampling of cavalry, the sounding drum, the commander's approving eye, and the hope of victory, all conspire to lift the wounded man above his anguish, and, like the hero of Corunna with his left arm nearly torn from his body by a cannon shot and his ribs all crushed, he may die with a smile of triumph on his lips. But it is far different with the wretched consumptive where death is hammering away incessantly, week after week and month after month, ere he makes a successful breach in the vital ramparts, through which he may leap and raise his pale ensign over the citadel of life. Yet through these long days of pain and still longer nights of weariness, there is often presented to the physician's eye a patience and a bravery greater than war can boast.

We may safely assert that there is no profession which requires higher intellectual culture, than the medical; and this culture must be carried to such proficiency that it can act almost automatically or intuitively. The study of months or even years, is often, in its practical sphere of action, circumscribed to a few moments. Instance, spasm of the glottis, or a foreign body falling into the windpipe instant

performance of tracheotomy. In such a case, how infinitely asunder stand the medical and the legal man; the former has no time to overhaul his tomes to learn whether the statute has changed, whether a recent decision of the Supreme Court will justify him in adopting this or that course, or whether the case may not be adroitly disposed of by a plea of *demurrer*, or whether the client may not be released on a writ of *habeas corpus*, or, worse coming to worst, if the Court may not be induced to grant a stay of proceedings;—I say the medical man has no time for anything of this kind, but his reading must have been done, and every fact so engraven on his memory, that as he runs he may read it. In fact, the young physician, borrowing the words of the greatest of Earth's bards, should thus apostrophize the study of the principles of his profession:

> "Remember thee?
> Yea, from the table of my memory
> I'll wipe away all trivial fond records,
> All saws of books, all forms, all pressures past,
> That youth and observation copied there;
> And thy commandment all alone shall live
> Within the book and volume of my brain,
> Unmixed with baser matter!"

In the practice of law, there is a charm which often fascinates the young man, and more than one medical student have I heard say, that he was sorry he had not studied law. There is, indeed, something captivating to the mind of most persons, in the very manner of conducting legal business. For example a Judge, full of dignity and self-possession, sitting in front of his Court, every eye of which is fixed upon him,

> "With eye severe and beard of formal cut,"

Holds the scales of justice in his hand; a couple of legally indisposed persons, known as plaintiff and defendant, present their cases for treatment, and to aid them detail their complaints, one or more lawyers are arrayed on each side. To see that the scales of justice are impartially poised, twelve men, known as jurymen, are chosen as aids, and after the complaint

has been thoroughly illustrated and set forth, then twelve men then pass upon the character and amount of medication proper to be resorted to in the case. Meanwhile a large number of spectators are witnesses of the whole affair, and, as an item last mentioned though not the least in importance, large sums of money have been given or pledged to counsel. But what a contrast when we step from the domain of Law to the practice of Medicine! The physician, especially in the beginning of his career, finds many of his cases summoning him to the squalid haunts of poverty; no convenience—no comfort—but poverty and want, in all their wretched forms, have here found habitation; while disease, a near kinsman to them, has in addition, added its quota to fill up the cup of misery. This is the character of the court where the physician is often called upon to practice his vocation. No Judge here to dignify the scene; no jurymen, perhaps not one spectator, to be a witness of the eventful drama enacted; and for all his work, more arduous than is ever done by advocate before court and jury, not one farthing will ever be received, nor was one expected when the task was undertaken. Nay, more, the physician who undertakes such labor, often does so at extreme personal risk, at the peril of his own life. For example, the great Howard, in his earlier years a merchant, afterwards a student of medicine, spent the remainder of his life in visiting prisons, finally dying in the Crimea while there on a mission to investigate the plague. On his death-bed he asked that no monument save a sun-dial should be placed over his tomb; yet his native land has given him a monument among her worthies, and were it not so, his name would be immortal, since in all cultivated languages the name of Howard is a synonym for benevolence. Before Howard fell a victim to the plague, he had visited all the prisons of Europe except that of Rome and the Bastile; to these two he was denied admittance. The French [illegible] to des-

peration by the heart-sickening tales of poor Latude and others who spent a great part of their lives in the Bastile, razed the latter to the ground. Rome has long since abolished her Inquisitorial dungeons, and the prisons remaining all bear traces of the benevolent touch of Howard's spirit.

The case of Howard is but one of a thousand noble hearts, that have thrown themselves into the waves of death, and have gone down while trying to rescue suffering humanity. And if I again refer to the legal profession, it is with no desire of casting a satirical shaft that I ask, where is the advocate who would undertake the case of a criminal, did he know, in defending him, that he drew upon himself as great a risk of being hung as threatened his client.

Again, young gentlemen, there is a great duty which our profession imposes upon each of its members. Let me, in this connection, quote the great George Forster, to whom Humboldt acknowledged that he owed his first impulses to Natural History, and whose name German naturalists are to-day canonizing, though in his life-time, on account of his advocacy of human rights, he was driven from his native land and a price set on his head. George Forster says, writing from exile to his wife:

"I have no home, no fatherland, no more friends; all who were once my friends have forsaken me to form new connections and associations. My misfortune is the work of my principles, not the offspring of my passions. I cannot act otherwise—I would not were it to do over again. Had I been willing to act contrary to my convictions and feelings, I might now have been a member of the Academy at Berlin, with a handsome salary; but to whom then could I sell the shame of having betrayed those principles which I have so often proclaimed." Forster believed in an innate excellence of humanity; he trusted that this would, in the end, gain the ascendancy and render him justice; the future was true to his hope and one of Germany's \

literary periodicals lately deemed itself honored by giving place to an illustrated engraving of Forster's birth-place.

In an essay on Art, Forster has uttered a sentiment which is so applicable to the physician's career that I cannot forbear giving it to you. He says: "If the recognition of personal merit depended upon others, or were the only reward for which a great artist labors, I doubt then whether a single master-work would ever have been given to us; but like the Divinity himself, self-satisfaction in his own labor must be his chief reward. The artist must find his recompense in this, that in the bronze, the marble, the canvas, or in letters, his own great soul is laid out to view; let him who can comprehend it there. But if the age be too small, if there be no co-temporary who in the work can discern the artist, in the artist can see the man, and in the man the creative genius, indeed, if the age can produce no heart in which the great work of art can awake a responsive echo, still the stream of time will carry the work along on its bosom, until it meets a kindred soul in which this rapture shall awaken, there to live forever."

He who understands these precious words of this poor exile, driven, for his defence of human rights, from all that he cherished most dearly, can understand how the physician is content to visit the hovel of poverty, to endanger his life at the bedside of pestilence, and to spend days and nights too, in unpaid toil and fatigue, in which limbs, heart and brain are taxed to their utmost; but he who cannot understand such sentiments, or who would scoff and throw stones into this fountain, whence the great, the pure and the good of our profession in all time, have drawn their inspiration, have found their solace, he, I say, should stop and read the words inscribed over the portals of the temple of Medicine: *Este procul profani*—for they were written for him.

To him, likewise, who [illegible] the profession of

Medicine will pour wealth into his coffers, I would say, beware of disappointment. Had the classic epigrammatist lived in our days and scrutinized the purses of the majority of medical men, he would never have written *Galenus dat opes*, unless in irony. This is certainly so in the early career of nearly every medical man, and you, gentlemen, can hardly expect to be exceptions. But still, be not discouraged; patiently work and patiently wait; the harvest, though not a large one, will finally come. There is no more noble sight, no more sublime spectacle, than an honest man earnestly struggling in the line of duty, undismayed by whatever misfortune may overtake him. For as Sue has well said: "Behold a spectacle in which God himself takes delight—a just man struggling against adversity and overcoming it by his courage."

I would not, however, place proverty as one of the aims of your life, nor advise you to endeavor to sacrifice your lives on her altar by way of martyrdom. The Spartan custom of not mourning for those who had fallen on the battle-field, but for those who were so unfortunate as to return home, has much moral sublimity in itself; but the mode of our times of rejoicing with those who have won our victories and have been lucky enough to return home, is probably more consonant with the character of our utilitarian age. You should look to it that your services, when meritorious, be paid for by those who have the means. Between the upright physician and the charlatan there is here a wide gap, which, too often, is not seen by the unwary public, until they are forced to leap it. The quack makes the unsuspecting patient believe that he has some extraordinarily dangerous disease, and when he has thoroughly awakened the fears of his victim, he extorts from him a large fee. I know of no baseness equal to that of obtaining money in this way; highway robbery is more honorable, since it does give its victim a slight chance of defence. The man who will condescend to engage in this species of robbery, has a heart

in which every sense of shame has been extinguished and every feeling of honesty and rectitude burned out by the remorseless and pitiless passion for money. In every city of our land there are scores of men who live thus and go on unscathed in their plundering career, notwithstanding the vaunted protection which our laws claim to furnish to the people. These men may be compared to Satan, as depicted by the fancy of Poe, who built himself a palace in Hell, adorned with every dainty touch of art, with walls

"Of fabulous price and beauty,"

But so cunningly constructed that the very sighs, moans and cries of the damned, as they traversed these walls, were transformed into tones of the most delicious music. And hence I would say to you that even as in Art, it is the form and not the material which commands admiration, so in your professional career, it is not the amount you have gained but rather how you gained it, that will command respect.

But whether your purses, like that of Fortunatus, shall always be well filled, or the scarce, well-worn pence of poverty be your heritage, remains written on a page of the future, and we will wait for the hand of Destiny to turn to it; but the intellectual pleasures which your studies heretofore have brought you, as well as those which your daily professional experience are to bring, will prove a priceless capital which no hand can wrest from you; this is a capital which no fall in stocks can depreciate, no rush upon the banks can lessen in value. The great temple of Natural Science, with its inalienable rights, its privileges and its freedom of thought, is yours. Natural Science, that which embraces universal nature whether organic or inorganic, is the offspring of Medicine. It is here, untrammeled by dogma or shackle of the past, that human intellect developes its highest power and strength. This is the intellectual freedom for which Galileo longed, for which the noble old anatomist Vesalius sighed, who, chased [redacted] and from

island to island in the Mediterranean, at last died almost of starvation. Vesalius undoubtedly thought it a strange world, where men would cut up and burn up their fellows for the sake of an opinion, and yet, for the sake of suffering humanity, would not allow their bodies to be dissected after they were dead. It was for this same liberty of thought that Michael Servetus sighed, as, bound to the stake, he refused to recant the doctrines contained in his book entitled *Restitutio Christianismi*; it is in one of the chapters of this very book, that he plainly enunciates the circulation of the blood from the right heart, viz: that it goes to the lungs, traverses them, and then returns to the heart; and this was a long time before Harvey's discovery of the systemic circulation. In the Imperial Library at Paris, is the work *Restitutio Christianismi*, bearing the marks of fire on it; for when the Council of Geneva sentenced Servetus to be burned, they ordered his books to be burned likewise; but this volume, more fortunate than its brave old author's body, escaped the flames, and now more venerable than the deciphered hieroglyphics of Egypt and Assyria, and more illustrious than the half-burned parchments of Herculaneum and Pompeii, it still lives, and in it lives the spirit of Michael Servetus, while on its scorched face fall the sunbeams of civil, religious and intellectual liberty for which he died.

But this great charter of intellectual liberty, which, as a symbol of faith, hovers over the altar of Natural Science, does not unloose you from the ties of morality. Those great principles of justice and right, vaguely shadowed forth by Plato as the Beautiful and the Good, by Socrates as the teachings of his *daimon*, and which have been venerated by the great and upright of all ages, must still bo preserved and made the corner-stone of this modern Temple of Freedom. And you, young gentlemen, to whom I have said that in adopting Medicine as your profession you are expected to be educated gentlemen, no less strongly would I impress upon you

made, is made for aye. No prompter stands behind the scenes to impart what you do not know or have forgotten. Fortune, stern, immovable and relentless, looks coldly on each act, allows no mistake to be made, or, if made, with one hand she writes it down to stand forever against you; but, as a word of cheer, the same Fortune holds a crown in her other hand, ready to place it on your brow, if you perform well the eventful acts of this momentous drama.

In conclusion: A sad duty devolves upon me, which, although by no means akin to the matters in which we are this evening engaged, is yet not inappropriate to this hour, viz: paying a tribute to the memory of your late teacher, whom death so prematurely snatched from his profession. And in this matter I will be brief, since the words of sorrow are few and simple, and when they become many and elaborate, they are but a flimsy veil through which the absence of true and heart-felt feeling may be detected.

The late Dr. Isaac Rowell was possessed of a genius great, rare and original; of an intellect brilliant, fertile and inventive; of a heart noble, generous and brave. To the bed-side of the patient he brought a rare amount of practical good sense, which was trammeled by no forms of affected technicality, nor cramped by any inflexible, stereotyped authority. His mind, like a tropical field of boundless luxuriance, now and then found time to wander away from medical themes, and to open up new paths of quaint invention and rare device; had he lived I am sure that future art would have owed to his genius more than one curious invention or discovery. But these wanderings never bore him away from medicine; in behalf of its best and noblest interests his heart ever warmed with the highest enthusiasm; and it was his genius, and his intellect, and his hand, which seconded that kindred master who laid the foundations of the first medical institution on tho Pacific coast, the school which this night enrolls you among its foster sons; nine years ago science and humanity shed their tears over the tomb of the one; to-night our institution brings a chaplet of *immortelles* as a token of remembrance and a badge of grief for the other; and, as one of her servants [illegible] honored me in allowing me to bring and entwine this [illegible] chaplet consecrated to his memory.

ADDRESSES

ON THE OCCASION OF

THE COMMENCEMENT EXERCISES

OF THE

Medical Department of University College,

DELIVERED IN

CALVARY CHURCH, SAN FRANCISCO,

NOVEMBER 4th, 1873.

BY EDWARD R. TAYLOR,

AND

PROF. JOHN F. MORSE.

SAN FRANCISCO, CAL.

JOSEPH WINTERBURN & COMPANY, PRINTERS,

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1873.

Medical Students.

Matriculants, 1873.

Names.	*Residence.*	*Names.*	*Residence.*
A. L. Prevost	San Francisco.	M. M. Chipman	San Francisco.
Geo. S. DeWolf	San Francisco.	John Thos. Arundel	
G. P. Stanley	Valley Ford, Cal.	John W. Van Zandt	Haywards, Cal.
H. H. Hogan, M. D.	Reno Nev.	A. C. Collins	San Diego.
R. H. Plummer, M. D.	San Francisco.	E. L. Wemple	San Francisco.
N. J. Giberson	San Francisco.	F. W. Colman	Napa, Cal.
J. D. Willson	San Francisco.	W. H. O'Keefe	San Francisco.
Geo. Chismore	San Francisco.	C. E. Blake	San Francisco.
Moses C. Farrar	Yagerville, Cal.	Wm. S. Herdman	San Francisco.
Jno. B. Robertson	San Francisco.	Jas. W. Blake	Visalia, Cal.
John Leffler	Napa, Cal.	J. S. Hammond	Lockeford, Cal.
P. J. Ragan	Oregon.	Richard Morgan	San Francisco.
John Parker	Salem, Oregon.	W. A. McCornack	Eugene, Oregon.
Alvin J. Howe	San Francisco.	Geo. Gerlack	San Francisco.
Julius C. Morse	Punta Arenas, Cal.	N. Rogers	San Francisco.
Curtis G. Kenyon	San Francisco.	C. C. Furley, M. D.	Wichita, Kan.
J. F. Grady	Weaverville, Cal.	P.B.McD. Miller, L.R.C.S.E.	Oroville
Philip Maas	San Francisco.	Auguste Brune	San Francisco.

Graduates, 1873.

C. E. BLAKE,
GEO. CHISMORE,
F. W. COLMAN,
MOSES C. FARRAR,
J. S. HAMMOND,
WM. S. HERDMAN,
ALVIN J. HOWE,
CURTIS G. KENYON,
W. A. McCORNACK,
W. H. O'KEEFE,
E. L. WEMPLE,
J. D. WILLSON.

Ad Eundem Graduates.

C. C. FURLEY, M. D.
P. B. McD. MILLER, L.R.C.S.E.

Scholarship.

A. L. PREVOST.

ADDRESS OF EDWARD R. TAYLOR.

Mr. President, Ladies and Gentlemen:

We meet in honor of an interesting event. These gentlemen who have served their apprenticeship in the lecture-room and the hospital, and who are about to be clothed with the regalia of the Doctorate, commence to-night their career as practicing physicians. We are here for the purpose of bidding them God-speed upon their journey, and of adding approbation and encouragement to the solemnity of the occasion. At such a time, it seems eminently fitting that we should ask ourselves, *What do we understand Medicine to be? What are its objects? What its capacities now, and its possibilities in the future? And further, What is the nature of the relation subsisting between Society and the practitioner of Physic?*

The road that I propose to travel in company with you this evening is not devoid of rough places, over which we shall have to make our way slowly, and not hope to be borne along on the wings of sensuous delight. We are not here, I take it, in the interest of euphuistic bosh, or of mutual admiration; were I inclined to my share of such performance, you, I feel assured, would not patiently endure it. If you will bear with me, then, I shall execute the task assigned me, with all earnestness, if not with pleasure or profit to you.

To the multitude, the range of physic is circumscribed by the walls of a drug-store, and to speak of medicine is to suggest some bitter pill or nauseous mixture. Disease is looked upon as a sort of trespasser in the close of the human body, whom it is the business of medicine to drag out by the heels, the drug being currently believed to be the great potentiality in the process—the generality of people deeming *remedy* to be synonymous with *medication*. Hence the popular notion that a knowledge of drugs is a knowledge of medicine, and hence the confidence felt in the old woman and her simples. Hence the indiscriminate swallowing of patent nostrums. Hence, too, the necessity that one

seems to feel of being prescribed for, whether by doctor or neighbor, the moment one begins to feel out of sorts. Hence, too, in many cases, the inability to obtain obedience from the patient, except in the matter of taking the potion. Hence, too, the necessity of bread pills and other deceptions on the part of the physician.

So far from drugs, however, embracing the sum total of medicine, they form but a small part of it. Indeed, so comprehensive is the study, so vast and varied are the sciences cognate to the science of medicine, that no ordinary mind can master them. In fact, only was it by means of the higher mathematics, that a way has been opened to rational treatment of the intra-orbital diseases of the eye; and the brain and nervous system still puzzle us with unsolved problems, and yield but scantily the secrets of their prison house. In truth, the study of the science of medicine having for its object an understanding of the cause or causes of disease, and of the laws which regulate morbid movement, embraces in reality a survey of the whole phenomena of life; for without a knowledge of the latter, we could never arrive at unimpeachable conclusions as to the former.

Medicine has indeed been reproached with being unscientific, the science and the practice being said to be by no means coincident. This latter, which is technically called Therapeutics, is, it is true, purely and simply an art; and no matter how learned in the sciences the physician may be, the daily practice of his profession can never reach beyond art—the broadest and most delicate of all arts, to be sure, but nevertheless an art. But the selection and application of remedies is very different from the investigation of pathological phenomena, and the greater the mastery acquired by the physician over the sciences, and the deeper he has dived into the mysteries of vital processes, the better will he be able to practice his art.

In order that I may not be misunderstood, and for the sake of trying to make clear what is muddy in some minds, let us briefly examine the difference between Science and Art. In a word, it is the business of science to discover the laws that control phenomena, and to ascertain and measure the forces that set those laws in motion; while it is the business of art to fashion this knowledge

into useful shapes for the benefit of mankind. One is the work of the theoretical dreamer—the other the work of the material man of practice. Both are essential, and each is necessary to the other. Let us take steam as an illustration. In this we have to do with water in a state of vapor which is composed of two gases, as science long ago discovered, and whose elasticity is such as to render it capable of working the most powerful machinery. This elasticity is due to the phenomenon of heat, which we now conceive to be a peculiar mode of motion of the ultimate molecules of matter. And so thoroughly has science investigated this phenomenon, that we are now enabled to measure with the utmost nicety the amount of mechanical work that a certain amount of heat will perform. This, which is denominated the mechanical equivalent of heat, and upon which is based the doctrine of the indestructibility of force—one of the great creative ideas of the present century—we mainly owe to Mayer and Joule—the former, be it known, a practicing physician. The experiments of Joule have amply verified the *a priori* deductions of Mayer, and the mechanical equivalent of heat, with its corollary, conservation of force, now rests upon an immovable foundation. With the discovery of the conservation of force, fell to the ground a delusion that has mocked the world for years—perpetual motion. As long as art was left without the guiding hand of science, this delusion was fondly hugged to the soul, and brain after brain essayed to do what science has now conclusively shown can never be done. When it was once demonstrated that in doing work something was consumed (Helmholtz), thus making replenishment necessary, it became clear that perpetual motion was impossible, for this involves the necessity of force being derived out of nothing.

This steam, then, whose mysteries science has laid bare to the apprehension of the meanest mind, art takes in hand and applies the force of its heat to the most various mechanical work—thus lightening the burdens of man and adding prodigiously to his wealth and happiness. And Friedrich Mohr has even traced the pedigree of the Locomotive, through the manufacture of rails, to the puddling furnace, the knowledge of the flame, and the study of chemical science, to their common ancestor—the Discovery of Oxygen.

Another illustration may be drawn from the treatment of light by science and art. Here art, without science, could manifestly do little or nothing, but with it for guide, its handiwork is something wonderful. When scientific men discovered that light, or certain rays of light rather, would quickly decompose certain salts of silver, the foundation was laid for our present photography, which is at once a wonder and a delight. And herein lies the folly of checking the man of science, and demanding that he shall give himself over to those labors alone that promise immediate practical results. For to thus cabin, crib and confine him, is to strip him of all usefulness. He should be permitted to sail upon the ocean of science unhindered and unobstructed, carry what canvas he pleases, and make such harbors as to him shall seem best. Neither should he be compelled to hazard prediction of results; for such prediction no man can make, no matter how deep his insight, or how profound his intuitions. Who could have dreamed of the connection between beet sugar factories and the discovery of the polarization of light, at the time this discovery was made? Could Huyghens, gazing through his crystal of Iceland spar, with the thrilling fascination of a new and wonderful revelation, have predicted that invention would turn this discovery of his predecessors to practical account? Results must always be left to art; science should never be compelled to take heed of them. And, indeed, this discovery of polarized light has been so utilized, that the beet sugar manufacturer can speedily ascertain what beets it will pay for him to buy; for this polarized light, manipulated by a Nichol's prism, will tell him to a nicety the percentage of sugar the beets contain. Even the magnetization of light was deemed by Faraday, its discoverer, to be fraught with practical results, and Tyndall thinks it "likely to affect profoundly the future course of scientific thought."

So with the discoveries in electricity. Galvanism has been turned by the hand of art into innumerable practical channels; electro-magnetism has given us the telegraph, and Faraday's discovery of magneto-electricity has furnished additional weapons to the armory of medicine, and has led to marked improvements in electro-metallurgy and light-house and other illumination.

Were it necessary, illustration could be multiplied to any extent. And, indeed, Helmholtz affirms that "physical science

"has, by the practical realization of its results, transformed the "entire life of modern humanity."

From the foregoing considerations, it is easy to distinguish the difference between the science of medicine and the art of medicine, or therapeutics. It is with the latter alone that the practitioner has to do in personally dealing with his patient—hence, medicine has been popularly defined to be the healing art. The physician, therefore, in treating his patient—that is, in the selection and application of remedies to meet the indications of a disordered condition, is an artist; while in the study and investigation of that disordered condition, he is essentially a scientist. He must, if he would perform his functions well, profoundly investigate the phenomena of the disease he is called upon to treat, and only when he understands these phenomena is he really fitted for the performance of his work.

The science of medicine has unfortunately far outrun therapeutics. That is, the art of selecting and applying remedies has not kept pace with our knowledge of diseased processes. This is singular to medicine, for scarcely does science announce some new discovery, but art sets to work to utilize it; and seemingly the most intractable discoveries have been easily harnessed to the car of utilization by the hand of art. The difference lies partly in the extreme difficulty of the material to be handled, and partly in the mistaken manner in which therapeutics has been studied. This latter has been abundantly demonstrated by the rapid advancement made since the study of the natural history of disease has been vigorously undertaken.

For a further elucidation of what we have been considering, it is perhaps well to remark that there can be art without any science at all, and that much of the practice of medicine is constituted of such art. Art may be, therefore, either empirical or scientific—that is, based upon experiment and observation, or upon scientific discoveries. In the beginning of things, there were no discoveries, for there was no science to make them; the mind of man could only invent from such materials as it had, and these materials were but scanty. But as man progressed in civilization, inventions grew to be less and less based upon empiricism, and more and more based upon science; and of all the great inventions of to-day, it is probably not too much to assert that

nearly all of them will be found to be mediately—if not immediately—derived from scientific sources. In fact, art precedes science, for, as Spencer has well said, "It results from the ne- "cessity we are under of reaching the abstract by way of the "concrete, that there must be practice, and an accruing experi- "ence, with its empirical generalizations, before there can be "science." But science repays her indebtedness to art with compound interest, by immensely enlarging the field of invention, and investing its products with a certainty that could not otherwise exist. For the art founded upon empiricism can never equal in accuracy that founded upon science. In the former we are compelled to rely upon rules unmeasured by an unimpeachable standard. There never can be any certainty that we are right. Our work, when done empirically, lacks evenness, and, besides, does not possess the element of permanence. And so we flounder on, when immersed in the swamps of empiricism, groping we know not whither, and yearning for the spiritual illumination of science which shall light us to dry ground. In illustration of the difference between empiric and scientific art, let us take the application of spectrum analysis to the manufacture of steel by what is known as the Bessemer process. Steel, as you know, is a combination of iron with a minute proportion of carbon, and is made from some particular varieties of cast iron, by a process which consists in extracting the carbon from the iron by means of the oxygen of the air. The manufacture requires extreme nicety, for the steel is equally spoiled if too much or too little carbon is taken away. There used to be no guide except the appearance of the mass as to stiffness or pastiness, and hence much bad steel and many failures. Now, behold, what a change the magician, Science, produces in this uncertain condition! You well know of that splendid discovery by which it has been found that the incandescent vapors of certain substances give certain persistent lines in the spectrum, which can be seen and studied by means of an instrument devised for that purpose—the spectroscope. Now, the lines of carbon are so well known that an expert can detect this metalloid, though it were present in less than a thousandth of a grain. Bessemer has seized upon this discovery, and applied it to the manufacture of the best steel the world has ever seen. For the condition of the spectrum

as to the carbon lines, indicates the precise time when the mass should be withdrawn from the furnace, and we hence have a steel of such uniform excellence as was simply impossible under the old methods. This will be better understood when it is stated that the Bessemer process consists essentially in completely decarbonizing the iron, and recarbonizing it afterwards by means of the addition of definite quantities of spiegeleisen, or mirror iron—so called from its presenting, on fracture, large and bright facets. Success, therefore, depends upon knowing the exact moment of complete decarbonization, and this the spectroscope reveals to the minutest fraction of a second.

Thus the instrumentality by means of which Science informs us of the character of the constituents of the most distant star, Art turns to the manufacture of the steel of which the razor is made that shaves our chin!

Now, in the practice of medicine there is much art, as has been stated, that has no scientific basis. Either the cause of the morbid action eludes the search of the practitioner, and he is hence compelled to content himself with a treatment of symptoms; or if the cause be traced to its fountain-head, and the pathological condition be thoroughly understood, yet no remedies have been devised that can be applied with scientific certainty. But it must not be hastily judged from this that physicians are not any wiser than the old women who know what is good for this and for that, and who are always ready with a remedy for everything from a cut finger to an apoplexy. Were this so, then medicine would indeed be a thing of shreds and patches, and of no account whatever. But the truth is, as has been stated, that the scientists in the profession have made such advancement in the investigation of physiological and pathological phenomena, as to leave therapeutics far behind. The latter, however, with the aid of the study of the natural history of disease, has caught breath, and is pursuing the race with renewed vigor.

Occasionally the profession happens to contain one of those singularly gifted and well-balanced men in whose nature discovery and invention hold equal sway, and then we have large results in both science and art. Such a man is Helmholtz—equally great as mathematician, physicist, physiologist and inventor. He it is who has explored the eye with a comprehensiveness and minute-

ness until his day unknown ; who has measured the lens, by means of his ophthalmometer, with mathematical accuracy, and who has shown us how, by means of his ophthalmoscope, we can view the profoundest recesses of the globe, and trace disease to its very lair. This remarkable man, in connection with the English Bowman, the German Graefe, and the Dutch Donders, has made of ophthalmology a science,and has taught the profession what great results can be achieved, not only in the theory but in the practice of medicine, by a proper method of investigation.

Before the physician can intelligently act, as has been intimated, upon the case before him, a diagnosis must be made—that is, the nature of the ailment must be ascertained. From the prevailing signs and symptoms, the medical mind is to be led up, by a logical process, to the cause that has set in motion these signs and symptoms; for until this *cause* has been found, there cannot arise scientific satisfaction. And medicine is so far scientific as it is able to discern the cause which is disturbing for the time the normal flow of the current of life.

Homeopathy, for this reason alone, can never be other than the baldest of empiricisms, for it makes no pretense in any case to ascertain the *cause* of disease, it being necessarily confined to a treatment of *symptoms*. The whole structure rests upon the absurd notion, that a medicine which produces certain symptoms in a healthy person will cure a disease accompanied with like symptoms—only, however, when given in such infinitesimal doses as to be inconceivable by the mind of an archangel ! Therefore the system is bound within a narrow enclosure, over which it can never hope to leap, and revel in the rich pastures of all-embracing science. The physician, then, having made out his diagnosis, and having satisfied himself of the gravity of the case, it is his next business to devise measures of relief. How shall he do this? Let us take scarlet fever in illustration. Does he hope, by introducing some drug into the system, to purge it of the fever? In days not long past, such was his hope; but science has at length taught him better. He now knows that this disease essentially depends upon the presence in the system of a poison that has a peculiar affinity for certain elements of the skin and kidneys; that that poison will be eliminated through those emunctories without

artificial interference; and that until the system is ridded of it, its presence will be manifested by certain disturbances, which he can in a measure modify, but cannot entirely control. He knows that the malady will run its prescribed course, and that do what he will he cannot bring it to halt. But he is not therefore compelled to stand passive, an idle spectator, as it were, of the contest between the patient and the disease. So far from this, his improved scientific notions give him such mastery over the matter as he could never hope to have in the olden time. He now can tell when his interference is necessary, and how far to carry that interference; when to hold off his hand and when to proceed actively. In the past, he worked in the dark, and all unconsciously, in many cases, did what he could to balk nature in her course; now, standing in the blazing light of modern science, he takes nature by the hand and kindly assists her in her struggle with disease.

But the object of medicine is not alone the investigation and management of disease after it has made its appearance, but it is its principal object to prevent it altogether. The former might be called therapeutic, the latter, preventive or hygienic medicine. In this latter field, brilliant triumphs have been achieved, as witness vaccination for notable example. In the field of prevention the physician has full scope for all his scientific attainments. If he chafe under the restraint and uncertainty sometimes imposed by the empirical nature of his practice, in the domain of hygiene he has ample scope and verge enough for the exercise of all his powers. He can here throw physic to the dogs, for instead of treating individuals, he has to do with populations. And with singular disinterestedness he sets about his work, for he labors to do that, which, were it once accomplished, would leave him without occupation. This matter of prophylaxis is one of the deepest import, independently of the danger of fatal results, for every illness leaves the physical organism more or less impaired, and this impairment is transmitted to offspring. It is a mistaken notion that a malady from which one recovers inflicts no permanent injury upon the individual; that it does so, one would presume *a priori;* but we know the fact to be, that such a profound change is produced in the human system by the zymotic diseases, that they scarcely ever appear a second time in the same person;

and it is familiar knowledge, that the more frequent the attack of rheumatism, the less the exciting cause necessary to bring it on; and that the more we have colds the easier it is to contract them. The notion, therefore, entertained by some mothers that it is part of the destiny of all children to have measles, hooping-cough and the like, and that it is better for them to undergo these diseases when young, is not only false, but exceedingly mischievous. Prevention has done much, as witness the diminished death rate in many of the large cities of the world, and still greater triumphs are in the future, when science and philosophy have finally established something approximating a perfect scheme of Biology and Psychology, and when the people are educated as we one day hope that they may be.

The progress of medicine has been great, as all must admit who know anything of the facts. We have seen what has been done for the eye, and the same might almost be said of the ear. The fevers have been investigated with such success, that science has all but grasped the rationale of their processes, and the capable practitioner can now predict their course with something like scientific prevision; the skin diseases have been classified into those that are parasitic in their nature and those that essentially depend upon a change of tissue, and hence we are enabled to pursue rational methods in their treatment; the thoracic and abdominal cavities can now be thoroughly explored by means of percussion, auscultation and measurement, and the lesions, if any exist, be made plainly manifest; thermometers have been invented by means of which the practitioner can detect the slightest deviation from the normal temperature, and by this means can diagnosticate a fever, when every other known means would be unavailing. The hitherto hidden diseases of the larynx are now reflected in the laryngoscopic mirror, and the lesion is not only thus clearly made out, but the hand is safely guided in its application of remedies. Surgery has invented scores of instruments for the better performance of its work, and limbs that were once remorselessly sacrificed, are now conserved with but little deformity. The study of the natural history of disease has been pursued with such assiduity that the course of many maladies has been so accurately mapped as to furnish safe guidance for practice. The anatomy of the body, both coarse and minute, has been explored

with amazing thoroughness and exactitude; while every organ of the body bears witness to the analyses of the chemist, the questioning of the physiologist, and the microscopic adventure of the histologist. The brain and nerves are slowly yielding up their secrets, and insanity has ceased to be a mystery. Even from such a hasty and imperfect sketch, how great does it at once appear that the progress of medicine has been. And the workers are still increasing; the ardor knows no abatement, and will know no abatement until the human body has yielded up to the men of medicine the last of its secrets. These men have never, since Hippocrates, known what it was to retreat; they have advanced step by step, slowly and with great difficulty, but they still have advanced, now taking this entrenchment and now that; dying, like Bichat, in the very blossom of their manhood, from over-labor and the inhalation of noxious gases; or like Obermaier, recently, stricken down by the self-same disease his ardor had led him to investigate, and experimenting with his own blood up to the last moment of his glorious life! With such a record as this, it seems to me impossible that the practice of medicine shall not one day be placed upon the lofty pedestal of scientific art—no more the prey of empiricism, but her every method and her every process as exact and certain as only science can make them.

The relation the physician sustains to society is at once delicate and important. Not only is he conservator of the public health—in fact society's hygienic oracle—but he is the family's most trusted friend; for not even consanguinity itself is taken more closely to the heart than he. His are the eyes that first see the new-born babe, and his are the hands that safely guide it through disease, or unavailingly stretch out to save it from the grave. He bends his ear to listen to the family trouble, and his lips tremble with the words of the comforter. To him, Humanity stands on the same level; he leaves the pauper in a noisome alley-way, to dictate to the nurses that stand round the sick-bed of the millionaire. There are no disguises to him: he sees the belle of the ball-room with no rouge on her cheek, and no drapery floating cloud-like from her seemingly faultless figure. He takes no note of personal harm or personal discomfort. He shrinks not from the bullet of the battle-field, nor from the blasting breath of the

epidemic. Wherever his suffering fellow groans, no matter what the circumstance or the danger, 'tis there he plants his standard and opens his guns. With him day is night, and night, day, and he takes his sleep and his meals when his patients permit him. If in large practice, his life is one of unremitting toil—toil in a nature so irregular, that it can never be made easier by reduction to a system.

Does not such a relation involve something more than the mere selling of one's services for so many pieces of gold? Is the family morally at quits with its medical adviser when it pays him his fee, as it is with the grocer or butcher, on the settlement of the monthly bill? And are there not certain negative duties, at least, which society owes the physician? It is singular that society should not only not think so, but should almost systematically treat the medical character with the grossest injustice. If the patient get well, it is thought he would have recovered without medical assistance, and if he die, 'tis the doctor who killed him. He sees the baldest quackery flourish exuberantly around him, whilst he, perhaps, is seriously debating with himself whether starvation will not compel him to abandon the profession to which he has devoted the best energies of his life. He sees his vocation misunderstood, its members treated with neglect, and sometimes with contumely, and worse than all, confounded with the quacks of all degree that live but to prey upon the ignorance of mankind; for many there are whose education is insufficient to enable them to distinguish the difference between the real and the spurious—to them the Chinese Lipotai is as much a doctor as Sir Thomas Watson. What avails the physician's knowledge of the human body, its bony structure, its muscles, its blood vessels, its congeries of organs, its amazing complexity of brain and nerves, if society, upon which he is dependent, places no value upon such knowledge and patronizes indifferently any jack that sets up for a healer? And is it not strange, too, that the self-same person, who will not part with a single dollar to the legitimate practitioner, save with the greatest reluctance, will willingly give an hundred such dollars to some miserable medicaster for a single prescription? Besides, how often are the physician's remedies set aside for those of Mrs. Smith or Mrs. Jones, and his instructions disregarded, while at the same time

he is held solely responsible for the result. Then there pour upon his devoted head the animadversions of the lawyers, who make a partizan of him in the matter of testimony, and then denounce him for being a partizan ; who place him upon the witness stand on a day's notice, and express great surprise that their hypothetical questions, which they themselves scarcely understand, should not clearly elucidate the subject, or at least not lead to uncontradictory result. They do all that in their power lies to make the stream muddy, and then complain because of its muddiness. No sufficient time for examination of the question is given, and yet the doctor is expected to unravel the tangled skein, while the opposing attorneys are doing their best to prevent him. Is it not strange that so much more should be expected of the physician than of the lawyer? The former, although dealing with equally obscure questions, is nevertheless deemed to be able to answer any inquiry off hand, while this is rarely so with the lawyer. If a question of importance be put to him, he tells his client that he will investigate the subject and give him his opinion ; while, if a patient, on consulting his physician, were to receive a like answer, the medical man would be set down at once as an idiot. The lawyer never appears in court except he be entrenched behind a fortification of books, while if the doctor were to take a medical volume to his patient's chamber, for the purpose of studying that patient's malady, his services would speedily be dispensed with.

I do not have the honor to be a practitioner of physic, and therefore do not wish to be understood as sounding the trumpet of complaint on behalf of my professional brethren. But this occasion offers a fitting opportunity for calling attention to the grievous injury society inflicts upon itself by failing to properly appreciate the nature of the relation subsisting between it and the man of medicine. For society suffers far more than does the physician by such mal-appreciation. The injuries thus sustained could be shown by a searching analysis, to be manifold and far-reaching. Such an analysis, however, cannot now be attempted ; but in its stead I shall briefly indicate what I conceive some of these injuries to be :

In the first place, we have the injuries inflicted by *quackery*. Cases, which with proper treatment, would terminate in recovery,

go on from bad to worse in the hand of the quack, and only fall under legitimate control when nothing can be done. Then we have the damnable invention of pretended disease played upon the weak; the wretched victim plied with remedies, and his feelings so wrought upon and his imagination so inflamed, that, deeming himself the subject of incurable disease, his life becomes a burden and a misery, and not unfrequently terminates in insanity or suicide. Then add to this the wealth that is wasted in feeding charlatanism, the nostrums that are swallowed at random, and the pernicious literature disseminated by these harpies, through newspapers, circulars and pamphlets, whose suggestions are so vilely corrupting that we shudder to think of them, and we have quite sufficient to give us pause. And yet quackery thrives, and only thrives because society supports it!

Then *the mal-appreciation of which we are descanting directly discourages legitimate medicine*, and hence society suffers by the resulting inferior grade of medical qualification. For here, as in matters of material wealth, increased consumption incites to increased production, and this in turn to more and better varieties of the article. There is not that encouragement to one's seeking the ways of medicine which there would be if the injustice we speak of did not exist. That men of scientific leanings should not be thus ignobly deterred from following their natural preference, is true, but that some *are* so deterred is unquestionable.

Again, *this mal-appreciation tends to create a low standard of medical education*. This results inevitably from the fact of society not discriminating between the good and its reverse, and frequently preferring the spurious and positively bad. All must agree that the standard of medical education cannot be too high; and if so, society must suffer if it do aught to lower that standard.

Besides, *this mal-appreciation has a direct tendency to turn the feet of the physician into illegitimate ways*, thus adding to charlatanism an element of the most dangerous character, in that it tends to make quackery somewhat respectable, and by so doing increases its powers of deception. There are many men who need a little propping in order to keep them straight; men who will do right if not too strongly tempted. Such persons are deficient in *morale*, and such it is, who, seduced by the siren song of quackery, drag their professional robes in the mire and drown

the upbraiding voice of conscience with the jingle of ill gotten gold.

And then reflect upon the enormous ills that must be occasioned by one's having no fixed rule of conduct in the supremely important matter of attention to one's ailments, and by the thousands of gallons of patent medicines which are annually poured down the human throat, the nostrum in scarcely a single instance being prescribed by any one having the slightest knowledge of its ingredients, or of its effects upon the system, or of the malady for the relief of which it is administered.

Now be it remembered that the consequences of the injuries just inflicted do not die with the person injured; for we know that tendencies are transmitted as facial peculiarities are, and that even the instinct of animals is to be attributed to what has been denominated the law of inherited association.

The cause of the failure of society to properly perform its duty in matters of health and medicine, is defective education. Indeed, so dense is the ignorance of people generally on medical matters, that nearly every human being considers himself or herself a natural born doctor. This almost every one has seen illustrated in his own person whenever seized with an illness. Be it a cut finger, a sore eye, or a malady that threatens the very citadel of life, each friend that he meets offers an infallible remedy; and never hesitates to decide in a moment questions that would puzzle the brain of a Sydenham. How different in matters of law! Here, if a man be overtaken by litigation, or is about to undertake the execution of a complicated piece of business, the advice of friends is not to do this, or to do that, but to at once seek a lawyer, and place the matter under his control. The cause of the difference lies in the fact that people are much better educated in matters of law than in matters of medicine. This results chiefly from our open courts, from jury duty, from legal discussion in newspapers, and from the numberless transactions in business which involve the ascertainment of legal principles. Homeopathy is much esteemed by many educated persons, who, of course, look upon the regular practice as a rival system, it being known to them as the *allopathic*, in contradistinction to the *homeopathic* practice. Now it will doubtless surprise many of such persons to be told that there is no such thing as allopathy,

and that legitimate medicine knows no system or limit whatever in the alleviation of human suffering. Indeed, instead of the term allopathy being one which medicine has adopted by way of distinction, it was invented by the homeopathists as an antithetical term of reproach; it being asserted by them that the effort of the regular practitioner is directed to the driving out of disease by means of other diseases artificially created—hence the derivation of the word from *allos*, meaning *other*, and *pathos*, meaning *morbid condition*. But there is no such thing, I repeat, as allopathy; medicine repudiates the term; no physician dreams of setting up diseases in the body in order that other diseases may be expelled. Nor is the legitimate practitioner bound within the narrow circuit of a system. This he leaves to the water doctor and the dispenser of potencies. It is his business and duty to use every available means for the relief of his patient, no matter what those means may be, so long as he knows what he is doing and violates no law of ethics. He should never act at random, nor administer a remedy whose effects he cannot reasonably predict, and of whose nature he is not thoroughly conversant. But with these restraints, he is free to draw from the wealth of the universe for the benefit of his fellow-man.

No wonder that people are a prey to the charlatan, when the prevailing ignorance in matters of health is as profound as we know it to be. Is it not monstrous that the human body, the vehicle of our existence, should not be better understood? In so simple a matter as the pulse, how many even know the normal number of its beats, or anything whatever of the healthful music of its rhythm? We are immersed every moment of our lives in an ocean of gas, some of whose constituents are absolutely necessary to the continuance of existence; but how many understand the nature of these constituents, or the manner in which they act in feeding the lamp of life? We are compelled to introduce food into the stomach at frequent intervals, else the vital machinery would come to a stop. But how many have clear notions, or any notions at all concerning the matter? Why would the wheels cease to turn? and what is the nature of the process by which certain foods repair the waste of tissue, while certain other foods act purely and simply as a fuel? One would suppose that, at all events, something would be generally known of digestion and

alimentation. And yet the great slaughter of infants from malfeeding proves the contrary; while the dyspeptics that mourn through the land furnish still further evidence. And as to dress, so far from the majority of women understanding anything of the *science* of the matter, that is, of the correlation between aliment and clothing, many of them violate, in the dressing of themselves and children, the plainest dictates of common sense. But enough. Of course, this lack of knowledge is asserted only of the mass, for there are scores in every large society, who have, by self-education, attained to something like rational notions of physiological phenomena, and of such, presumably, are those who interest themselves in medical college commencements.

Legitimate medicine will never meet with proper recognition, nor will matters of health be understood by the people at large, until our methods of education undergo a radical change. Children are crammed with those things they do not need to know, and are restrained from learning those things that are absolutely essential for them to know. The young man, who has made the round of the classical curriculum, steps from the portal of the University or College with his parchment under his arm, and as he surveys the world from his seeming elevation, he secretly wonders if the knowledge of any of its inhabitants is the equal of his. He can write a latin poem, knows the Iliad, can perhaps calculate an eclipse, and possibly has a smattering of so-called moral philosophy. What more need be known, he asks himself? Are not these the *summum bonum* of learning? But in the world which he surveys with such lofty disdain, he has to live and make his way. Then it is plain he should know *how* to live, and *how* to make his way. Aye, *there's* the rub. For will his Livy and Homer teach him those things that are necessary to the completeness of his character, and the awakening of the possibilities that lie dormant within him? At every step of his progress he will find himself surrounded by mighty forces and vast energies, and as he cannot escape them, as they necessarily influence his life, what a puny Lilliputian he is if he knows nothing of them—if, instead of his making them subservient to him, as he could do if he understood them, they make him subservient to them! The earth he treads upon, the food he eats, the air he breathes, and the water he drinks, he has no more real knowledge of than a

child has of the integral calculus. The myriads of children of mother Earth, ranging from the microscopic photophyte to the giant sequoia, and from the shapeless amœba to the "express and admirable form" of man, he roams among, the merest atomy. The kaleidoscope of life is ever present to his view, but the colors fall dead on his mental retina. Nor does he understand the material activities that environ him; hence he cannot adapt himself to them, nor use his natural powers to their best advantage. The physical sciences, that have done more to advance mankind than nearly everything else combined, are to him a sealed book, and contribute nothing to his mental stature or moral elevation.

> The primrose by the river's brim,
> A yellow primrose is to him,
> And it is nothing more.

To him, social science and political economy are strangers, and hence, should he become member of a legislative body, he will assist in perpetrating still more of that absurd legislation which knows no coherency and no principle, and whose repealing acts are about the only commendable ones in the whole mass of entanglement. And in this connection it might be pointed out, as a striking commentary upon the failure of our educational methods, that our so-called self-made men are the ones who are most successful in business; and that the greatest Englishmen of this century, notably Spencer, Buckle and Mill, were educated outside of the great universities.

Assuredly, as long as our principal business is that of *living*, it would seem to be the most important of all earthly matters, to become acquainted with the laws of *right living;* not only the laws that govern the life of the individual, but those as well that govern individuals when aggregated into societies; and these involve, not only a knowledge of the accumulation and distribution of wealth, but also a comprehension of those mighty forces with which physics and chemistry have to deal. It is not saying too much to assert, that without such knowledge, we are deficient in the very marrow of education—and can have no real comprehension of rational life. What important consequences for ill flow from a defect of such knowledge, Herbert Spencer sets out with startling clearness, and to him I would refer every

thoughtful person who has not had the great good fortune to make his acquaintance—a man whose mind is thought by many to be the subtlest, best balanced, and most capacious of the nineteenth century, and whose powers and reach of scope are simply stupendous.

In order that medicine shall fulfill its mission and do all the good of which it is capable, society must intelligently co-operate with it. And this co-operation can only be reached through improved methods of education. So long as people are ignorant of the fundamental laws of life and health, so long will quackery thrive, society suffer, and legitimate medicine be discouraged. It is demanding too much of a person to ask him not to believe that his friend, by drinking the bug-tea of a Chinaman, was cured of a disease that physicians had pronounced irremediable, when that friend assures him that such is the fact; or that Dr. Puffer, in two short weeks, had restored Mrs. Credulous' broken-down lung to its pristine vigor, when Mrs. Credulous makes affidavit that such miracle had been worked by Dr. Puffer. Now physicians know, *a priori*, that these are gross deceptions; but how is it possible for those persons, who constitute the majority in every community, to penetrate through the veil of deception to the core of the miserable fraud, when they understand nothing whatever of the subject? But did they have a slight inkling of how easy it is to work upon the feelings; how easy to make one believe everything about a subject of which he knows nothing; and how easy to exaggerate the efficacy of that which we believe has been of service to us; and did they reflect, as they do not, that many ailments leave the system without artificial expulsion; that others exist only in diseased imagination, which a strong faith or a powerful excitation will often suddenly remove; and that nearly every one misapprehends entirely the nature of his disorder;—were all these things taken into account, many a charlatan who now revels in luxurious offices, would be glad to content himself with a carpetless room in the attic.

In conclusion, let me invoke your best wishes for these gentlemen who to-night start upon a physician's career; may they prove worthy of a profession that has numbered in the past, and still numbers in the present, some of the most glorious names

that have ever shone upon the roll-call of thought—men who have illuminated every age, and whose light shall not go out "till the last syllable of recorded time"—men not only distinguished in medicine, but equally distinguished in every department of science;—men who in this century have placed, in the person of Mayer, Conservation of Force upon an enduring foundation; in the person of Wells, explained the marvel of the dew; and in the person of Young solved the problem of colors, whose solution evaded even the mighty powers of Newton.

If these gentlemen are imbued, as they should be, with the proper scientific spirit, they will acquaint themselves, as far as time will allow, with all that is known of the phenomena of life, whether normal or abnormal, and will never tire in exploration of the human body; they will pursue the study of the physical sciences with ceaseless ardor; they will labor over their cases until they can trace each symptom to the cause that produces it; they will be ever on the alert for complications, and treat them fearlessly and intelligently when they arise; and they will select and apply their remedies with a prudence and acumen that can only come from him who understands something of the complex structure with which he has to deal.

If example can stimulate, or reward incite, there surely is enough to cause these gentlemen to enter upon the race before them with every feeling and every thought set to their highest tension; with an unfaltering resolution to let no ignoble thing come between them and their great purpose, but to do their duty as they find it to do with all the energy of their nature.

That thus they may act, and find at last that reward which never fails to repay persistent endeavor, is, I am sure, the cordial wish of every heart that now beats before me.

ADDRESS OF PROF. JOHN F. MORSE.

Mr. President:—Before entering upon the discharge of the specific duty assigned to me, it may be well to say a few words to the Junior members of the class who are about to leave the Lecture-room, and return for a season to their respective preceptors. If, gentlemen, you had any doubt at the beginning about the importance of study in the profession of your choice, you can certainly have none at present. Therefore, after a reasonable relaxation from your five months of earnest labor, let us invoke you to plunge again into study, with a will that stops at nothing short of inability to eat and sleep. And in that relaxation, or recreation, to which we refer, don't forget the kind of rests which the *heart* takes, to recreate the most laborious walls of vitality. The farther you advance in the interval of lectures, the more stimulating and glorious will be the next and last course of oral instruction. That your health may be sustained, and no sad changes mark your reunion with your old teachers and friends, is the united desire of your Faculty.

Gentlemen of the Graduating Class:—There are many lessons in this world which must be repeated until known, and they are never known until they are worked into the forms of organized intelligence. As confidently as we may believe in the progressive improvements of man, yet we can scarcely hope for exemption from this common mental necessity. We are not alone in this opinion. The Faculty from which you have just received your Diplomas, by whose patient daily teachings and examples you have acquired a just title to the "Doctorate," have demonstrated their concurrence in this view of a universal psychological law, and honored me with the office of repeating some of the Leave-taking Lessons of your Alma Mater.

In doing this, I need not inform you that I am in sympathy with you. In our joint efforts to minister to the city's poor, every

Sunday for many months, we have become well acquainted—have learned the value of mutual effort and mutual kindness, while making ourselves quite comfortable and happy by practicing the charming art of reciprocal respect.

But I must not indulge in exordium, dare not amplify beyond the time, nor stop to study adornment. I must grapple at once with the subject—must have immediate and magnetic access to your minds, and upon the sensitive protoplasm of the eternal memory, I must hastily sketch some of the characteristics which make up the great, the noble, the glorious physician.

I shall consume no time nor thoughts upon quackery, not scarcely refer to the magnificent history of our calling. The one commenced in the mental strategy of Paradise, and flourished for thousands of years without the aid of certificates or advertising. The other is stereotyped in history, and cannot be made much better or worse by reflection.

It is the impinging, burning present which demands our attention, and inspires us with motive and confidence. Let us, too, in the rythmic language of Longfellow—

> "Trust no future, howe'er pleasant;
> Let the dead past bury its dead.
> Act,—act in the living present,
> Heart within and God o'erhead."

It is the present which brings you to the foreground with diplomas in hand, sad, it may be, with the parting, yet bravely eager for that conflict which is to determine the character and capacity of the man. Thus far you have had the advantages of study without responsibility—a feast of theory with almost none of the perils and perplexities of practice. Now, these functions are to commingle in exactions which never change, and yet with a kind of demand which is as variable as the ills of life.

These exactions arise from the relations in which you now stand to the lives and good health of mankind, and from the unutterable importance of being what your Diplomas represent you—competent to practice medicine.

COMPETENT TO PRACTICE MEDICINE!

Not in the languages of man are there four words of mightier import; not in the relations of human life can one feel a neces-

sity, or frame a declaration of greater interest to society. But do not misunderstand these words in respect to the endorsement of your Diplomas. It is not in the amplitude of ability that these parchments attest your competency. They simply express a belief in your competency to begin the practice of medicine.

But competency to begin, and competency in progress and maturity are so relatively necessary, so interchangeably essential, that they live or die inproportion as one grows into the other, other. The first is worse than useless without the second, and the third is the only crowning glory of a completed destiny.

Competency to begin is established by the endorsements of your preceptors. We have only to deal with your competeney in progress and maturity, and this will force us at once into the consideration of the controlling power of aspiration and habits. By your desires and habits you must rise or fall—must ascend to eminence or descend to insignificance, become really good men and sound physicians, or miserably poor physicians, which is about the worst thing that can be truthfully said of any living man or woman. Competency in progress demands a full conception of the value of improvement and an aspiration which shall demonstrate the very divinity of earnestness. These prerequisites exact nothing but consonant habits to carry a character into the grandest regions of usefulness, honor and independence.

Are you ready for the fearful struggle? Fearful indeed, for it is a warfare of life and for life—an endless contest till life itself is extinguished—peradventure in a pressure of victories. Victories over all the disturbing and groveling elements of man's nature. Over his instinctive weakness—his vanity, his idleness, his arrogance, his tyranny, his ignorance and prejudices.

These are the conquests you must all achieve, if you really desire to become glorious men of a glorious and humane science.

Study is the first requisite, industry the most essential sustaining power, logic and philosophy the necessary and certain products. That graduate of your class who has entered into an undying, unchangeable covenant with study for life, is just as certainly booked for distinction, just as certainly a superior man, as the soldier who is awake and armed in the beginning of a battle is superior to a soldier who is surprised while sleeping. It is only by such a covenant that any one of you, or all of you can

hope to reach a position of commendable success. What you have already done is absolute play compared with what is to be done, what must be done in the future.

There are thousands of graduates who reach the point you have attained with brilliance and ease, but who can go no farther. Graduation with them is the end of effort. As students, they never tire at the shrine of theory; they are industrious, enthusiastic, often wonderful at school in emulation with their fellows; yet timid, weak, vacillating and easily discouraged in that world of conflict of which all the occupations of man are constructed. Iron-hearted heroes in school-house conflicts, hares or canary-birds in the rough and tumble battle-fields of business life. Indeed it would seem almost a rule, that the brighter and more magnificent the pupil in college, the duller and weaker he is in the practical outside world of contest and struggle.

In school, Sir Walter Scott was a dull and unpromising scholar. In school, John Hunter was pronounced a hopeless block-head. In school, John Van Buren was in perpetual disgrace from capitis elephantiasis. In school, Henry Ward Beecher was notoriously a fixture at the wrong end of college classes.

Some people there are who seem unfitted for an independent, individual struggle for life. They can neither construct, nor carry to the water, nor paddle their own canoe. The boat must be made and adjusted by other hands, and then, if upset by an adverse wind, or rudely jostled by a counter current, it proves an irrecoverable discouragement to the timid navigator.

The sea of difficulties upon which you are now launching your little crafts is the worst in the world. The Straits of Dover, the Bay of Biscay, and the Mediterranean when lashed into fury, are the types of sublime tranquility, compared with the wrecking elements of that boundless ocean of storms and typhoons, of tortuous channels and sunken rocks which must be navigated by the medical man. And yet withal, no maritime life is more glorious, or noble or secure, to every master of the chart. He must study the chart. Not till he gets his clearance papers, but till he dies. He must study, every day of his life he must study. Though he were to study six hours every day, and though marvelous in his power of acquiring knowledge, yet will he be found daily lamenting his professional deficiency. I do not pretend to

say that every physician does study six hours every day; but I do say that it would be better for the statistics of mortality and the glory of medicine, if the declaration could be honestly made.

Who can become a tolerably good pianist with less than six hours of daily study and practice—and yet what is the science of music compared with the complex world of medicine? Who can become an expert billiard player, which is worse than useless, when followed as a business, with less than six hours of daily study and practice, and yet what are billiards to the ever expanding and glory-making science of medicine?

Sir Thomas Watson mourns over the meagerness of his professional achievements. Graves could not look upon his wonderful record of ceaseless study as a proper fulfillment of his wishes or as a just and adequate tribute to his master. Trousseau gave his works to the world, the products of an insatiable spirit of study, with intense regret that they were not worthier of his purpose and a fitter homage to the immortal Graves, whom he acknowledged as a model. Sir Charles Bell declared that a physicians' life immolated in study was still an inadequate guaranty to the public. Stilling was obliged to acknowledged that a long life, almost without rest, was too short, too short for a survey and understanding of the *Pons Varolii*, and Van der Kolk expressed his views of the structure and pathology of the *medulla oblongata* with timidity, after thirty years of almost ceaseless exploration and research. Yet these were all professional giants, absolute colossal authorities, and the *pons* and *medulla*, but small segments of that stupendous nervous system which presides over the citadels of life and health. And these citadels with their infinity of momentous relations, are sooner or later to be placed in your keeping. How soon, or under what circumstances no one can foresee. In a single decade one-half of my own children may be relying upon some one of you as a chosen guardian of their lives and health. In that period the most important lives of this audience may be suspended upon your competency to meet a thousand conditions in which occult disease and the hidden elements of destruction are threatening the worst of all possible calamities. I regret more than anything else I have seen in medicine, that there is no system of instruction which enables a man to thoroughly

qualify his offsprings to discriminate the wise and skillful from the ignorant and unskillful physician.

The influences which generally have much to do with the employment of physicians, are not those which are most infallible in fancy or direction. Often times it is the mere shape of the Æsculapius, the dress, the turn-out, the family he has *descended* from, his vivacity, his convivial habits, his command of anecdote, the number of expert solicitors he liberally fees, the church he attends or the party he swears by—anything indeed with more power than that sagacity which seeks alone for those signs of the student which are only acquired by those who neglect the arts and tricks of popular commendation. But the contingencies of life are the first and the best doors that can open to the young physician. They yield him an opportunity of displaying how much he knows, and occasionally before those whom study and observation have endowed with the ability to distinguish wheat from chaff and gold from brass. These contingencies are the first architects of his character, and write glory or shame upon his prospect, in letters as ineffaceable as diamond scratches upon a mirror. But to meet these contingencies nothing but study and organized, automatic intelligence can qualify you. The one among you who has a cultivated and controlling love of study, who has a will superior to discouragement, a purpose which amplifies on opposition and enriches itself by failure, who can live upon bread and water, mend his own clothes and rise early enough in the morning to do his reading by daylight, can make good use of those overtures to fame which belong to the incipient trial-prices of the best physicians in the world. For a young physician to breakfast after eight o'clock in the morning, for any physician not to give himself four working hours of forenoon labor every day for at least twenty years, is to exhibit a character out of all relation to his calling and utterly ignorant of the genius of business life in America.

Nothing can justify or mitigate the violation of this common-sense law in the economy of Time, but absolute sickness of the physician, or perhaps two successive nights of sleepless, professional employment.

If located in the city, the physician should give himself one office hour, before commencing his morning round. This affords

him time to think up his cases, consult authorities, to receive and classify new orders, and to start with such instruments and appliances as will be needed by his patients. And when he does start, his mind should be full to overflowing of the best resources of his profession. I don't mean resources which have been heard of or read about and recognized in faint traces upon the brain. But resources which have been so organized in memory, so automatically packed away in the thought chambers, that they can, at any moment, under any excitement, be named, described, written out or applied with the ease and quickness of an impulse. It is fashionable for mankind to cheat itself into the belief that it knows, but cannot tell or use its knowledge. I remember once writing in my scrap book, from a distinguished authority, this aphoristic expression: "If you ask me if I know, I say, yes; but if you ask me to tell, I say, no." I cherished this mitigation of stupidity with profound gratitude for years, often quoted it with sublime complacency, and always with applause. At last I discovered, through my own experience and the apparent experience of others, especially when testifying in courts of law, that I was hugging a delusion, and I repudiated the miserable nostrum from the list of apologies. I don't believe in it, and have no patience with the theory that would use it. What one knows he can tell, do or apply. To a physician no other knowledge is of any earthly value. The physician must not only know, but know on the instant, as quick as appeal can be made and thought supplied. Nor yet alone positive and prompt, but in one sence as accurate as mathematics and potent as truth. A physician who would raise the heels and lower the head and shoulders of an apoplectic, or place in sitting posture a person dying of syncope, would not mitigate his stupidity by saying, "Oh! I knew well enough, but not exactly on the instant!"

I am not going to speak for the lawyers nor ministers, but I will say, with unhesitating emphasis, that it will never do for medical men to represent the Margites of Homer, "who knew a great many things, but all things wrong." A physician must know when to do, what to do, and how to do; when to continue a measure or means, and when to discontinue it; when to plead the seriousness of disease, when to underrate its importance; when to tell the truth, when to disguise

it; when to be depressed, and when to be joyous; and, finally, when to be amiable, or, if necessary, when to get mad and leave in disgust. No sentry in camp, no sailor at the mast-head, no general in battle must be wider awake, or have sharper perceptions than one who holds in his hands, or has resting upon his ability and judgment, the health and life of humanity. He who reaches this measure of competency cannot fail. But it is especially in the beginning he must fight the hardest battles—must personify the invincible hero,—must learn to practice the most difficult lesson in business life: "To labor and to wait." I repeat that the most trying conflicts are at the threshold, and generally arise from poverty!

But what is poverty? Jean Paul Reichter exclaims, "What is poverty, that man should wince under it? The pain is that of piercing a girl's ear, and you hang jewels in the wound."

I shall indulge in no moralizings upon your duties as citizens and gentlemen. Those thing belong to another school-house—to the fire-side, to the church. If you are not a good citizen, you cannot become a reliable physician; if you are not a gentleman, your diploma should be burned.

The last thing I have to say to you is, to never forget the value of choosing well your society. I mean more, much more, than the ordinary uses of these words imply. While I would not see you become professional anchorites, yet I do not mean that kind of society which talks all day, and sometimes all night, without saying anything worth remembering, but that society which is animated with intelligence and utters wisdom, whether coming to you from the lips of the living, or from those forms of utility which enable us to converse as intimately and profitably with the dead as the living. There is no power on earth which can prevent your enjoying the best society God ever gave to man. And when you feel that you have been slighted by some shoddy of social life—been cut by some snob of American royalty, or arrogance, or conceit,—been crowded out of place by some plethoric money-bag, or scrofulous Glossmore, do not get offended, but be grateful to the incident which drives you in preference to your library, where you may meet Hippocrates and Galen, and Celsus, and Harvey, and Jenner, and Hunter, and Rush and Mott and

Warren, and Flint, and Wood, and Draper, and thousands of others, who are greater than kings, or princes, or millionaires can be, as such, and a thousand times more anxious to see you and befriend you in the difficulties and trials incident to the "struggle for life."

Finally, with the ultimate farewell of the Faculty, let us beg of you to fear no evil in the line of duty, to falter not in discouragements, faint not in disaster, remembering, ever, that the cloud which obscures the face of Aurora may be invisible at noonday, and yet reappear as the gold-gleaming coronet of the brighest and most beautiful sunset.

Medical College of the Pacific.

MEDICAL DEPARTMENT

OF

University College.

Faculty.

A. J. BOWIE, M. D., Emeritus Professor of Surgery, and President of the Faculty.
J. F. MORSE, M. D., Emeritus Professor of the Principles and Practice of Medicine.
J. P. WHITNEY, M. D., Emeritus Professor of Physiology.
HENRY GIBBONS, M. D., Professor of the Principles and Practice of Medicine, and Clinical Medicine.
L. C. LANE, M. D., Professor of Surgery and Surgical Anatomy, and Clinical Surgery.
EDWIN BENTLEY, M. D., Prof. of Descriptive and Microscopic Anatomy and Pathology.
C. N. ELLINWOOD, M. D. Professor of Physiology.
ADOLPH BARKAN, M. D., Professor of Ophthalmology and Otology.
THOMAS PRICE, M. D., Professor of Chemistry and Toxicology.
J. H. WYTHE, M. D., Professor of Microscopy and Biology.
HENRY GIBBONS, Jr., M. D., Professor of Obstetrics and Diseases of Women.
J. R. PREVOST, M. D., Professor of Materia Medica and Therapeutics.
WILLIAM A. DOUGLASS, M. D., Demonstrator of Anatomy.

The regular Course of Lectures in this institution commences on the first Monday in June of each year, and continues until November.

The College building is conveniently and centrally located at

114 Stockton Street, south of Geary,

At which place the Dispensary Clinics are also held. Adjoining is the

LABORATORY OF UNIVERSITY COLLEGE

Under the charge of PROFESSOR PRICE, and

THE DISSECTING ROOM

Is conveniently situated. The various HOSPITALS, where CLINICAL INSTRUCTION is given, are accessible by aid of street cars, which pass near the College every few minutes. Thus the student will find, in close proximity all the varied appliances for theoretical and practical instruction. It will be seen that the

REGULAR COURSE OF LECTURES,

Is given in the SUMMER, contrary to common usage. In San Francisco, the disadvantages attendant upon such a plan do not exist. The heat is never oppressive or enervating; on the contrary, the sea winds are bracing and invigorating. There are no rains during the lecture months, the atmosphere is dry and the temperature rarely above 70°, while it ranges considerably lower. These circumstances tend to prevent decomposition and add many advantages to the prosecution of dissection.

THE DISSECTING ROOM AND LABORATORY

Are open the year round, and ample Clinical instruction is given at several hospitals and also at the College building, upon three or more days of every week.

PRELIMINARY COURSE.

The Preliminary Course will commence on Tuesday, January 6, 1874, and continue four months, with the following arrangement of Lectures and Clinics:

CLINICS.

PROF. BARKAN, City and County Hospital, Tuesdays.
W. A. DOUGLASS, M. D., City and County Hospital, Tuesdays.
PROF. ELLINWOOD, Marine Hospital, Wednesdays.
PROF. BENTLEY, City and County Hospital, Saturdays.
PROF. GIBBONS, City and County Hospital, Saturdays.

In addition, Clinics will be given at the College Dispensary on three days of the week.

LECTURES.

TUESDAYS.

PROF. WYTHE, Microscopy of the Urinary Organs.
PROF. BENTLEY, Anatomy and Special Pathology of the Respiratory Organs.
PROF. GIBBONS, Jr. Auscultation and Percussion.

FRIDAYS.

PROF. LANE, Diseases of the Skin.
PROF. GIBBONS, Hygiene and Legal Medicine.
W. T. WYTHE, M. D., Diseases of the Nervous System.
PROF. BARKAN, Anatomy and Physiology of the Eye and Ear.
PROF. PRICE, Physiological Chemistry and Chemical Climatology.

PRIZE.

A FREE SCHOLARSHIP for one Course of Lectures will be given each year, to the FIRST COURSE STUDENT who passes the best examination at the end of the term.

FEES.

Fees for the full course	$130 00
Matriculation Fee (paid but once)	5 00
Graduation Fee	40 00
Demonstrator's Ticket	10 00

REQUIREMENTS FOR GRADUATION.

1st. The student must be twenty-one years of age.

2d. He must have attended two full courses of Medical Lectures, one of which must have been delivered in this institution.

3d. He must have attended at least one course of Practical Anatomy in the Dissecting Room.

4th. The Candidate must have studied medicine for three years (the terms of attending lectures included) under the direction of a respectable practitioner.

5th. He must write a Medical Thesis, and submit the same to the Faculty, two weeks prior to commencement.

Graduates from other Medical Colleges in good standing are required to matriculate only.

BOARDING.

Students may obtain good rooms and board at prices varying from five to ten dollars per week.

All further information that may be desired can be obtained by applying in person, or by letter, to

HENRY GIBBONS, Jr. M. D.
DEAN OF THE FACULTY,
No. 26 Montgomery Street, San Francisco, California.

ADDRESS,

DELIVERED BY

DR. L. C. LANE,

PROFESSOR OF SURGERY,

At the Commencement Exercises of the Medical College of the Pacific,

November 2d, 1876.

SAN FRANCISCO:
BONNARD & DALY, Book and Job Printers, 610 Merchant Street.

PACIFIC

Medical and Surgical Journal.

VOL. XIX.—DECEMBER, 1876.—No. 7.

ORIGINAL COMMUNICATIONS.

Address Delivered by Dr. L. C. Lane, Professor of Surgery,

AT THE COMMENCEMENT EXERCISES OF THE MEDICAL COLLEGE OF THE PACIFIC, NOV. 2, 1876.

Gentlemen Graduates—About the first of March of the present year I received a letter from the Dean of our Faculty announcing that I had been selected to deliver the valedictory address to the graduating class of this year, and he wished to know if I would perform the task. Such a request, I may here note, was presuming considerably upon the future, both as regards you and myself. My reply to him was *yes*, if railroads, steamship, oceans, rivers, would safely return me to our own dear California; dear I call it, since I am sure that if biblical commentators had had the precious memories which I have of a fifteen years' residence in it, they would, by unanimous accord, have placed the garden of Eden here. Your Dean also wrote that I would be expected to narrate something of what I had seen abroad, and thus, that I might give some "freshness" to the occasion. Now, as you see, I am here, the elements having consented to my safe transport hither; and moreover, I see that his acumen as Health Officer gathered from so many years' experience in compiling reports *mortuary*, has given him some expertness in kenning the *vital*, thereby enabling him not only to foresee my safe return, and you will excuse me for

hinting at it, seemingly to have acquired thereby a yet deeper insight into the undeveloped future, since he did not presume too much in calculating upon a graduating class.

It is a very common thing on the occasion of a marriage that the newly-wedded party make what is called a bridal tour. This custom, though I remember once to have seen it sharply criticised in a medical journal, is so much in vogue that I propose on this occasion, which is to commemorate your marriage to the great Profession of Medicine, to accompany you on a short bridal tour abroad; though in doing so I must say on starting, that if we see much of Europe in so brief a space, we can only do it by running and reading at the same time; and that, too, with the volubility of a Westminster Abbey guide, whose tongue does its task with the speed of a Thibetian prayer—well, crowding into one's head, in a few minutes, a compend of English history from Alfred the Great until William the Third. Yet I hope that in my capacity as guide, I may be more successful than he, for after his work is done, so rapidly have his ideas traversed your head, that like the transit of an electric current, they have not left a vestige behind.

Let us, then, shutting our eyes to the wealth of art, industry and material development which crowd upon the traveler's vision the moment he enters Europe, direct our attention to medical matters and things cognate thereto. Thus narrowed, our field becomes reduced to mnemonic capacity; and besides, I am sure that you must be most interested in learning something of the great family of which, in future, you are to be the kinsmen.

We commence our journey by landing in Ireland; we begin here very appropriately, since it is from here that America has received many of her noblest sons. From Queenstown, our landing place, we hasten up to Dublin, where Porter, Churchill, the venerable Stokes, Corrigan, Butcher, Colles and others reside, and will greet us with an open, genuine and unstudied warm-heartedness, which we must make the most of; for I regret to have to add, that we shall not find its equal again while abroad. I do not mean to say that we shall meet no more true friends on our journey; but from my experience, hospitality, as a rule, is like some of the springs in our mountains, which in mid-winter freeze over and in mid-

summer dry up, while in an Irish gentleman's heart it is a perennial fountain, and like his wit, ever gushing forth, warm, deep and unfailing. From the quick and expert Porter we learn the happy results which he has obtained in the treatment of aneurism by moderate compression indirectly applied, by means of a simple and inexpensive apparatus which he himself has invented. The aged Stokes salutes us most cordially, and though partially paralyzed, so that our sympathy is awakened as we see his tottering step and trembling hand, yet we soon perceive that there is no halt in the tread of his intellect, nor in the vibration of his heart, which is brimful of love for America. As an evidence of the former, and as a compendious formula of a life's experience, he tells us "the present generation are making a great mistake in their endless subdivision of disease, insomuch that the student is greatly puzzled to decide to which he must address his remedies;" and an equal proof of his affection for our country is his parting message to us: "Bear from us kind words to your countrymen, for they have ever been kind to us, and have always been just to us."

Churchill and Colles will receive us with equal cordiality. The latter is exclusively a physician, though his name is inseparably attached to one of the troublesome fractures of the forearm, from the fact that his father was the first to accurately describe the injury and to suggest an appropriate treatment. From Churchill, the noted obstetrician, you will learn a lesson of patience which I hope you may not be called upon to endure, when he tells you how many years he had to wait before he attained a successful practice.

From the land of the quick, impulsive and ready-witted Celt, we will pass over to the home of Brown, who, for a generation, by the force of his genius, led the medical world captive with his specious theory of irritation—of Cullen, whose comprehensive mental power seized in its grasp the entire domain of internal medicine and reduced to brief axioms, easy to be remembered, the tangled and shapeless mass of facts which his predecessors had been storing up in the common magazines—of Simpson, who, if he was not the founder of obstetrical surgery, at least made

some of the most valuable additions to this branch of medicine, and whose brilliant success as a practitioner attracted so many strangers to Edinburg for treatment, that his death was acknowledged to be an important financial loss to his native city; for the practical Scotchman does not forget to weigh even the fruits of genius in the scales of finance, as shown not alone in the instance here cited, but in another which I heard of more than once, viz: that the value of all real estate in the north of Scotland had risen forty per cent. through the influence exercised by the writings of Sir Walter Scott. Besides what Simpson did in obstetrical surgery, he won for himself immortality in the applications of chloroform.

As we come from Ireland to Scotland, we first enter Glasgow, the great northern emporium that is rapidly becoming the rival of Liverpool. On our arrival our ears are filled with the clamor of a thousand hammers which are moulding into shape the iron-clads of all nations, destined not only to bear "those mortal engines, whose rude throats immortal Jove's loud clamor counterfeit"—messengers of death between nations in combat—but also those intended to carry the civilizing cargoes of peaceful commerce. Now, in a modest laboratory, within hearing of this din of hammers, we might have seen a few years ago a modest man quietly studying and working out a surgical problem, which, when solved, was destined to carry blessings farther, wider, and in nature far more precious, than any cargo which yon iron-clads will ever bear abroad; blessings not limited like an Ossianic fountain, that "brings joys to the withered vales from its own moss-covered rock," nor even as the Nile, whose fertilizing influence is confined to a single continent, but blessings that are to be co-extensive with humanity. And should humanity be so recreant as to forget its origin, yet, like the Nile, though its source be unknown, still the noble stream never forgets to dispense health, joy and riches to the people through whose midst it flows. The modest man of whom I speak was Joseph Lister, and his study was the antiseptic problem. The proposal of such a problem was sufficient to render any man famous; but Lister not only proposed it, but to a great extent he has solved it, so that now the surgeon has it in his

power to perform the majority of surgical operations without any of the risks of inflammation, which formerly hung like the sword of Damocles over every grave surgical procedure. Much remains to be done to perfect the method of Lister, yet, in its present state, its excellencies are so great, that it has been introduced into the majority of the great hospitals of Europe. Scotland was not long forgetful of her distinguished son. She soon gave him a chair in her leading University, and for a wife, Scotland's greatest surgeon, Professor Syme, gave him his daughter.

In the Royal Infirmary of Edinburg we must not fail to visit Prof. Hernandale, who, though a most unpretending man, is one of the most clever operators whom we shall see abroad. This is especially so as respects resections of the joints. These operations performed in the Lister spray are attended by a minimum of mortality that is astounding when we compare it with the deaths from the old modes of procedure.

It should be remarked, that though Lister has been the subject of applause from all the surgical world, except a small section just south of the Tweed, yet in the chaplet which encircles his brow, the flower modesty has not been crowded out by the laurel; for on our visit to him we shall find him a quiet, retiring man, and free to communicate with us, and even to give us the recent improvements which he has made in his antiseptic formulæ.

From Scotland I will next conduct you to London. This great metropolis of English commerce and centre of Anglo-Saxon culture, though eminently, I might say, intensely English in character, is still in many respects cosmopolitan in population; for though the Briton essays in every way to maintain his hitherto isolated situation, yet the commercial ties which he has with every civilized nation are making great inroads upon his insulated state; and, at the same time, the gold laden vaults of Threadneedle street, with their glitter, have caught the eyes of, and are inviting the visit of the merchants of all nations. Hence in traversing the streets, the polyglot sounds which continually greet our ears, remind us forcibly of our own metropolis of the Pacific. On inquiring in regard to medical institutions, we learn that instead of one or two great schools, London has eleven medi-

cal Colleges, the eleventh and youngest being the Female Medical College, established two years ago. Besides these metropolitan institutions, there are a few Provincial medical colleges, viz., one at Liverpool, one at Manchester, one at Leeds, and one at Birmingham. Yet none of these has the power of granting diplomas; this power being invested in two boards, resident in London, and known respectively as the "Royal College of Physicians" and the "Royal College of Surgeons." The former confers the title of M. D.; the Royal College of Surgeons confers merely the title of Member or Fellow. It is claimed that this isolation of the power that confers degrees from that which teaches, is a great improvement over the system which now obtains in America. This would be so, were the two really isolated; but unfortunately, such separation does not exist there; and, I may remark here, that it does not exist anywhere in Europe. In London, both of the corporate bodies which confer degrees, are composed mainly of men who are professors in the medical schools. Such is the case in France, and such is the case in Germany; so that in these respects, I regret to say we do not differ materially from the Old World; for it would be a great improvement if teaching and examining were in part, at least, committed to different persons.

If I be permitted to continue this digression a moment longer, I will remark that there is one respect in which we are much behind the European institutions, and that is, in not requiring a thorough preliminary examination of every student before he commences the study of medicine. The objection offered by the partisan of the present plan is, that thus many a genius whose early advantages have been few, would be debarred from entering the medical ranks; to which I would reply, that the facilities for acquiring a moderate knowledge of the lingual and physical sciences, are so numerous and easy of access in our country, that there is no excuse for him who does not avail himself of them. And furthermore, as to the loss from genius being debarred at the threshold, it is a matter which in most cases need not be much mourned over. Plodding, or better named hard work, is more demanded in medicine than the waywardness and brilliant sallies of so-called genius. Molière could conceive a Tartuffe, Goethe

a Faust, Dante a Divine Comedy, and Shakspeare a Hamlet, the greatest of tragedies, yet none of them possessed the patience to master the infinity of details, which would have enabled them as physicians to successfully treat a typhoid fever, or as surgeons, to heal an indolent ulcer. During my visit, I have seen and heard the leading medical men in Europe, and with all due deference to them, I must say, that if all the geniuses were withdrawn from their ranks, it would fall far short of decimating their number. A tiresome journey on foot carried the Listers and Liebreichs to the eminence which they have reached; eagles' wings never bore them there.

In ending this brief allusion to medical education, I will express the hope that the American Medical Association will soon take some steps which will lead to our schools adopting a uniform system of preliminary study and examination, for all who engage in the study of Medicine.

But let us return to the English Medical Schools, which we strayed away from a few moments ago. Of the eleven metropolitan medical schools, but two have large classes, the University Medical College and King's College. Guy's Hospital School and St. Bartholomew's have tolerably large classes. The remaining schools have small classes, some, in fact, not having as large an attendance as we have in our San Francisco schools.

University College may be considered rather the offspring of King's College; and as might be expected the two are sharp rivals, and differ in many respects. Old King's School in which is found the great surgeon Fergusson, also Wood, Smith, Beale, and others, is eminently conservative. She prefers three per cent. consols, and to "sleep well o' nights," rather than to disturb the world with innovation. Her ruling head, Canon Barry, thinks Buckle's History of Civilization an unsafe book for young men. The University School, on the contrary, is more Cassius-like, "lean and hungry," in which the radical, reformatory and innovating element finds a congenial home. She opens her arms to students of every nationality, color and faith.

The general demeanor of the English medical classes, whether in the presence or absence of their professors, I will not hold up

to you as a model. Though one sees a number of hard-working students, yet besides these, there are many wild, extravagant, noisy and reckless blades, whose chief ambition is in fun and frolic. And this, too, in the pupils of staid old King's, where, despite all the drilling in the thirty nine articles, two years ago, at the opening of the course, Fergusson's address was interrupted with such remarks as this: "Dry up, old fellow;" "Sir William, you had better stop now, and go out and take a drink;" and to such a pitch of riotous turbulence did they reach, that finally the lecturer closed his manuscript, and told them that if he could not have better order, he would close the meeting. This succeeded in partially quieting them, so that he concluded his address. It should, however, be remarked that Sir William Fergusson is far more at home in the use of his hands, than in the use of his tongue. Since, while as an operator, he has, for one of his age, no superior in the surgical world, he has, perhaps, no inferior as a speaker. As you are carried away with his tall form, commanding presence, intelligent face beaming with good nature, and the grace with which he uses the scalpel, your admiration is mingled with real sympathy as you witness his ineffectual efforts to explain what he is doing. But, notwithstanding this, as soon as you see the man you will love him, and you will love him still more when I tell you that in a long life of surgical practice, he has not been guilty of one unprofessional act. Search his career of half a century, and one fails to find it sullied by one spot of malignity towards, or jealousy of, a professional brother. I am sure that the remembrance of a life so spent brings more joy to his heart, than the recollection of the splendid trophies which his surgical genius has won; and beautiful as a wreath of heather from his own Scottish hills, will it long encircle his memory when the work of his life shall close. Though probably none of you will ever reach the summit of professional eminence which has been attained by Sir William Fergusson, yet in the untarnished integrity which has distinguished his life, you are able to become his rivals. Will some future biographer make the same record of your finished career as you have just heard of him?

In each of the London schools we find one or more distinguished men. In making our visit, besides those mentioned, the following deserve especial mention. In St. Mary's, Walton and Lane; in St. George's, Holmes, Hewitt, Lee and Carter; in St. Thomas', Jones, Murchison and Liebreich; in Charing Cross, Barwell and Hancock; in Middlesex, Watson and Greenhow; in the University, Erichsen, Heath, Reynolds and Sir Wm. Thompson; in St. Bartholomew's, Paget and Holden; in Guy's, Bryant, Cooper, Foster and Birkett; in London Hospital, Hutchinson; in Westminster, Holt. Besides these, others might well be mentioned, as the list given is far from exhausting the famous names of the medical profession in London. For example, Spencer Wells, who, by his successful results in eight hundred cases of ovariotomy, has restored this operation to surgery, from which it had hitherto been excluded. And particularly should we not fail to visit the Royal Orthopedic Hospital, and St. Peter's Hospital for Stone, since we shall be kindly received at each place, and especially so at St. Peter's, where Mr. Teevan and Mr. Coulson, the operating surgeons, extend such hospitalities to American visitors as might almost lead them to think they were in Dublin again. Besides these courtesies, the visitor is sure to carry away with him a uumber of interesting ideas, from the varied practice which he there witnesses. Yet the list given must suffice, as soon as two other great names are mentioned.

In the southwest quarter of London, not far from Hyde Park, we find grounds on an extensive scale, covered with large and in some cases elegant buildings, which are dedicated to the reception and conservation of a number of the rarest and most valuable treasures of English science and art. This is known as the South Kensington Museum, which we must visit, as we find there many things of the greatest interest to the scholar and the lover of art and industry. To the latter nothing can be more curious and attractive than the first rude models of the early essays of Watt in the construction of the steam engine, and of George Stevenson in that of the railroad. These quaint and awkward contrivances are kept as sacred treasures, and rightly too, since they are the stepping-stones on which England has marched to the front of na-

tions through culture, commerce and industrial progress. Alongside of this building of old models is one which interests us greatly also. This is the Gallery of National Portraits, where we find almost every distinguished personage who has furnished material for the imposing fabric of English literature, or who, by his actions, has shed lustre on English annals. But in the pile of buildings which cover the grounds of Kensington, there is one which, to the student of natural science and of medicine, is more cherished than any which I have enumerated. This is a tall building, with Pompeiian and Etruscan adornment, and built firmly, as if to endure forever. In the upper story of this, we find a rare museum of natural history, and the unpretending lecture room and physiological laboratory of him who is England's greatest scholar in natural history, viz: Thomas H. Huxley. To reach him, we must climb eleven flights of granite stairways, which, fortunately for those of feeble limb and short breath, are neither steep not long, yet, as he says, are enough so to prevent all from visiting him who have no business there. We will find him a plain, simple and unostentatious man; in every word, movement and act presenting that modesty and want of display which always indicate and reveal the scholar. If we stop and hear one of his lectures, the qualities mentioned shine forth even more manifestly. Once having heard him, no one asks for further evidence of the universality of his knowledge in his department. From having attended his six months' course of lectures, I was happy to find, for once, a man who is not over estimated. He knows more of organic, animated nature than any one living; he has but to open the "book and volume of his brain" to find a true picture of any living animal; and its homologies or analogies with any other species or genus, he is as familiar with as a linguist is with the conjugation of verbs. If at the close of a lecture he be asked a question concerning some animal, as is often the case, even though the point be far removed from that which he has been considering, his answer is as clear and ready as if he had just studied the matter—and not verbally alone, but with his chalk in his hand, he follows it through the winding mazes and varying phases of its evolution, with an ease, rapidity and artistic truthfulness, until

one almost forgets the extemporized creation before him, in his admiration of this great interpreter of the laws of nature. And this admiration is kept continually aglow, as one follows him in his search for the hidden links of the chain of being which lie buried in the geological and pre-historic ages.

I must not take you away from London without introducing you to one other noted personage in our profession; since in reading his works I am sure that you have already learned to admire, if not to love, the man. This is Sir Thomas Watson, Baronet. Nature conferred knighthood upon Sir Thomas a long time before Queen Victoria did. Years have much bowed down his person, yet he still looks the great and kind-hearted gentleman. At the evening meetings of the Royal Institution, at which were delivered lectures by Tyndall, Huxley, Gladstone, and other celebrated British scholars, Dr. Watson was a regular attendant. On his earnest, straightforward and honest face one could catch traces of that practical and pointed good sense which lends such a charm to the pages of that capital work which every student of medicine should read, entitled: "Lectures on the Practice of Physic." A long life of noble and upright purposes has left its impress on his brow. In unmistakable lines patience, energy, and the love of the right are written there. Such a face in an old man presents more genuine loveliness, even though the fingers of time have blotted out its primitive lineaments of beauty, than the most matchless picture which has ever been conceived and executed by the fancy and pencil of a Tiziano or Murillo.

My notice of the medical celebrities of London has been almost an uninterrupted eulogy. The note must change when we touch upon the hospital buildings. Though erected with the purpose of lasting forever, yet in their construction and internal arrangement they are far behind similar institutions in America. Sprung from a period that antedated modern hygiene, one often finds them lamentably deficient in the facilities for ventilation. Air, now regarded as a thing almost divine, in fact, the major and minor premises and conclusions of modern medical reasoning, seems to have been deemed by the former generation as something diabolical, an evil spirit which must be hedged and barred out in

every possible manner. In all the old cities of Europe, this doctrine has left monuments of its former hold on the medical mind, in the miserably lighted and still worse ventilated wards of all the old hospitals. And in reference to the selection of a site for their erection, the policy would often seem to have obtained that land that was too low, or too much of a marsh for any other purpose, was quite good enough for a hospital. As examples of this may be cited the London Hospital for Cancer, and the Consumption Hospital at Brompton, London. So, also, King's College Hospital is situated in a part of the city most illy fitted for the purpose. With such hospitals around him, it was no wonder that Professor Erichsen found so much to praise in reference to American hospitals. Besides their guidance by the enlightened ideas of modern sanitary science, the Americans have, by nature, a large share of talent in adapting whatever they make or construct to its ulterior purpose.

After this hasty visit we must bid England farewell, and next turn our steps towards France.

The wildest storm in its work of devastation usually does something which man, in his philosophic pride, reckons a blessing. This finds its popular expression in the oft-repeated proverb, it is an ill wind that blows no one any good; and this may be applied to the French Revolution of 1793. For while the Angel of Death was writing this chapter of French history in characters of blood, the humane genius of science was laying the foundation of one of the most thorough systems of University education which the world has ever seen. While the guillotine was baptizing the Place de la Concorde with the blood of Lavoisier, Roland, and the noble Girondists, in the National Assembly near by was being organized the great Medical School which has rendered Paris, ever since, famous as a centre of medical education. It was in this dark and eventful period, when France overturned her altars, lengthened her week into ten days, altered the names of her months, and adopted a new era dating from the so-called birth of French liberty, that the present school was born, and in a few years became so eminent that it has, ever since, attracted students from every quarter of the globe. For one sees there young men

from Russia, Greece, Egypt, Spain, Brazil and Chile; in fact, from every cultivated nation.

To this school, which has produced a Bichat, a Louis, a Laennec, a Cruveilhier, and a Velpeau, I beg leave to now introduce you; and since we have spent so much time with our kindred north of the Channel, we shall be able to make but a brief stay among the gay, sprightly and polite Frenchmen. Let us first go to a lecture at the School of Medicine. We find the large room crowded with attentive listeners; for though there are other medical schools in France, the Parisian institution remains ever the great luminary to which nearly all French students are attracted. We have scarcely listened a minute when the thought arises in our minds, what a difference there is between an English and a French professor. Our speaker here surprises us with his matchless elocution, his ready command of language, his power of illustration, his grace of manner; in fact, we find that we are in the presence of an accomplished orator, a personage whom we failed to find in Scotland or England. Whether the Frenchman got his mercurial or movable character from Mercury, or his jovial disposition from Jupiter, or whether his insular neighbor got his opposite and somewhat saturnine character from the planet with rings, we have not time to investigate. Yet the fact strikes us most forcibly that never were neighbors more the antitheses of each other; and in this circumstance we find an explanation of their mutual hates and wars during the last thousand years.

Over the speaker is placed a splendid painting on which the famous Ambrose Paré is represented in probably the most important act in which any surgeon ever figured, viz., the application of a ligature to the bleeding vessels of an amputated limb. You will recall that up to Paré's time bleeding was staunched by plunging the stump into hot pitch, or applying a red-hot iron to the cut vessels. In this painting, on a battle-field, a soldier has had his leg cut off, and the attending surgeon is in the act of applying the burning iron, when Paré, who is standing by, reaches out a few silk threads to be used as a ligature. The careworn and haggard face of the wretched soldier as he cautiously scans what is being done, and the noble serenity of countenance

of the old surgeon as he performs the act which in all future is to relieve amputation of half its horror, makes a picture which commands the admiration of every one who visits this lecture room. And just above the speaker's head is a bust of Ambrose Paré, and which, I may be excused for saying, has some resemblance to the senior member of our Faculty; but whether the latter would have written the pious sentence that is escaping from old Paré's lips, viz., "I dressed the wound, but God healed it," I do not know, though I think it probable that he would, when I remember how ready he is to apply the lash to young men, and anon to old ones, who leap out of the traces of temperance, or let down the bars and stray out of the field of good morals.

After this lecture closes, let us stroll for a few minutes about the famous fabric which for so many years has been consecrated to the study of Medicine. As we look at its front, a few bas-reliefs strike our attention, but soon our eyes rest on a remarkable bronze statue which stands in the open air of the court. It is remarkable on account of the intellectual expression of the face, as well as for an awkwardly formed body, which supports the noble head. When we enter the building and ascend the stairs to the library and anatomical museum, there we meet the same figure again, in plaster, and beside it the figure of a child, the body of which he is gently touching, while he appears absorbed in intense thought as he looks at the child. At his feet one sees a book half-opened, in which we catch a view of the words, "La Vie et la Mort,"—that is, *Life and Death.* The statue is of Bichat, of whom France is as proud as we are of Franklin, or England of Newton; and to show its appreciation of his talent and what he had done for science, the French Government ordered that his statue should have a prominent place among the group which adorns the front face of the Pantheon. This group represents the goddess of honor distributing awards to the most famous men of France. Bichat died at the early age of thirty-one, an age at which few men have really commenced their work; yet in his brief life he accomplished that which has made a new epoch in Medicine. As the historian of civilization has put the matter, it was Cuvier who introduced accurate study of the organs of the

animal body; but it was the wonderful merit of Bichat that he carried over science one stage farther, viz., he was the first to accurately study the tissues which compose the organs, and to study them in their normal and abnormal conditions. There remained but one more stage to be passed, in order that medical research should reach its final goal. To the pioneer of the latter stage, we will make a visit presently, after we have said a word or two more in regard to French Medical Institutfons.

To the great disadvantage and loss of time to the student, the hospitals of Paris, like those of London, are scattered over a large area; so that to go from the most northern to the most southern one, we must traverse a route of some three miles, and a like distance to pass from the most eastern to the most western. They are all worthy of a visit, as each has a medical or surgical attendant who has reached his place through a gauntlet of *concours*, in which he has outstripped some score or more of talented rivals. In this contest for place the candidate is examined as to his qualifications as a scholar, as a teacher and as an elocutionist. Hence we find among French medical teachers more fine speakers than elsewhere in the world.

In our circuit among the hospitals, I shall direct your attention to the excellent judgment that has been used, as a rule, in their construction. They are so arranged as to afford free inlet and outlet of air, and the whole building is quadrangular, or so disposed in rectangular sections, that a free space of open ground is left within, which is laid off in small lawns, and intersected with rows of lindens and maples, and adorned with borders of bright flowering plants. In warm weather these well shaded grounds are thronged with groups of convalescent patients; some of the feebler ones being carried there on their beds. Such a transition from the never-varying monotony of the walls of his ward to the enlivening beauties of nature, excites a most happy influence upon the patient laboring under a chronic ailment. Such an intimate contact with the inspiring views of nature enables the waning physical forces to rally as did the contact of the wrestler of old with the strength-giving earth.

The most interesting of all the Parisian hospitals for our visit

is that of Hotel Dieu; old enough to have witnessed that most curious of dramas which centuries ago was enacted in the Garden of Cluny near by, when Julian the Apostate was forced by the Roman legions to either accept the imperial purple or death at their hands; and not unlike the most of men, he chose the former. Grand old fabric, worthy of its name, God's sojourning place! parent of French hospitals, and the birth-place of the French medical schools, since it was here that students were first gathered together in Northern Europe, and where, surrounded by a cordon of police, they first listened to anatomical lectures. Here Guy de Chauliac, whom history records to have divided his time about equally between medical research and professional wrangles, delivered the first systematic lectures upon surgery; and the auditory which we now visit has resounded with the voices of Bichat, Desault, Dupuytren and Trousseau. But venerable Hotel-Dieu which has been the scene of so much that is remarkable, is now playing its final act. Time and sanitary science have decided that it shall exist no longer. But phœnix-like, it is rising anew in one of the most magnificent buildings which has ever been consecrated to hospital purposes; a structure in which convenience, hygiene and beauty, such as can only be born of French taste, are all united.

As our visit everywhere must be brief, partaking of the character of panoramic transition, I shall next conduct you to Berlin, the great centre of Teutonic power, and the seat, to my mind, of the greatest of German medical schools. As it is my purpose only to point out some of the leading features and prominent excellences of the great medical centres which we are visiting, I will after noticing the hospitals, introduce you in Berlin to but one or two distinguished personages.

The hospitals associated with, and used for the purposes of teaching, by the medical school of Berlin are two: the Charité and the Klinicum. The Charité contains medical and surgical wards; the Klinicum is devoted wholly to surgical treatment, and when compared with other famous European hospitals, it may safely be assigned the first place as a model where one finds a total disregard of all that falls under the head of sanitary and hy-

gienic. Had the Imperial ruler of Germany, or rather his Chancellor, devoted a fraction of the French indemnity to the erection of a new surgical hospital, he would have left a monument that would survive the military fortification on which most of that ransom has been spent; and besides, in so doing, he would have pleased and done honor to his much-loved surgeon Langenbeck, who is heartily ashamed of the present structure. But Berlin, though possessing the most learned body of men in the world, has failed to make use of the most common and universally known principles of sanitary science. Sewers which elsewhere are bridged over, are there open canals or ditches, whence foul effluvia continually mingle with the air.

Langenbeck, the surgeon at the Klinicum, though advanced in life, is one of the most expert operators now living; and you will not be surprised at this when you learn that for many years he has repeated on the cadaver, at least twice annually, all the principal operations in surgery. Besides, when we hear a few of his clinical lectures, we shall be convinced that he has more unwritten surgery in his memory, the mature fruit of years of diligent work and observation, than any surgeon whom we shall see in our travels. I once was present at a national fete, when, in the old Castle of Frederic the Great, there were assembled the leading titled and order-bearing personages of the German Empire. The Emperor and his family, those high in command in the Army and Navy, the Order of Superior Merit, Eagle-bearing Knights, black and red, were gathered there. In casting my eye over the moving sea of gold and colors, I observed the slender, nervous and graceful form of Langenbeck. He was literally covered with orders, the gifts of his sovereign, with whom he is a great favorite, his last order having been conferred for a difficult operation on the Emperor's daughter. And though, seemingly, one of the most cheerful of that titled company, I could not but suspect that anon a shadow of sadness stole upon his heart, as that military display awakened the memory of a brave son, who, as an officer in the late Franco-Prussian war, fell pierced with a dozen bullets on the battle field.

Alongside of Langenbeck was place for another great man of Prussia. But the place was unoccupied by him, though his sove-

reign had conferred an order upon him which entitled him to be present. It would not have been consistent with the life and character of Rudolf Virchow to be there, since he is too intimately associated with the party opposed to the Government. Besides, his time is so precious that he cannot give a moment of it to any work which will not advance science or the rights of humanity.

In order to see Virchow, we must go to the Charité, the hospital above named. Casting our eyes about this great pile of buildings, we find less to complain of in a sanitary point of view, than we met with at the Klinicum. Its well-shaded grounds remind us of what we saw at Paris, or what we might see at Vienna, had we time to visit that city. Among the many buildings comprised in the Charité, I wish to direct your eyes to one of imposing appearance and ample proportions, bearing the unique name on its front, *Pathologisches' Institut.* This is the great workshop of Virchow. Here is his collection of crania which have furnished him some keys for the solution of the anthropological problem. Here is his immense collection of pathological growths and general morbid anatomy which has guided him in the classification of tumors, and especially in the preparation of that remarkable work which has made a new epoch in medicine, viz: Cellular Pathology. Bichat, as we have seen, traced disease to the tissues: it has been reserved for Virchow to trace it a step farther, viz: to the cell. This work, which he has performed in part and pointed out the way in which it is to be done, has carried the science of medicine a long way towards that completeness of knowledge which is its ultimate aim.

Of all the men now living I can cite no one who exhibits so many phases of mental character united in one person as he. For example, he possesses most wonderful powers of analysis, as shown in his unfolding the complexities of disease, until he has found the minute cellular aberrations which have caused it. Witness the amyloid change which he was the first to detect, or at least, to correctly interpret. Witness his discriminating sagacity in discovering the multifarious offices subserved by the connective-tissue cell, which, till Virchow's day, was regarded as somewhat like Paley's explanation of the spleen—something introduced into the

animal organism as a kind of expletive, to fill up vacancies which had been left in the formation of the body. Virchow claims that instead of being mere packing material, the connective-tissue cells are important instruments to which are due the healing of wounds, and many other physiological and pathological processes. Many other examples might be adduced as illustrative of his powers of analysis, but the instances cited are sufficient. His powers of synthesis, or of regrouping together the sundered facts of disease, are shown in his wonderful work upon tumors, which, before his time, may be denominated a territory unreclaimed from chaos, but which, by his generalizing powers, has been reduced to a domain of such order and simplicity, that the cardinal principles of it may be mastered by the student in a few hours' study. As another instance of his synthetic faculty may be cited the matchless formula of Heterochronia, Heterotopia and Heteronomia, which is really an epitome of all books written upon general pathology, a kind of logarythmic key that enables the pathologist to take a short route to the solution of his pathological problem. Or, if I am allowed another mathematical illustration, this formula is like the binomial theorem of Newton, as it enables the pathologist to combine the multifarious phenomena of the morbid tissues into easily legible forms.

Besides this work, which, as we know, can only be done by the quiet, retired and thoughtful scholar, we find him daily acting another part, requiring character and habits of mind quite the opposite, viz: as an active debater and leader of the Democratic party in the National Assembly of Prussia. Here, as the champion of human rights and the firm opponent of the Bismarckian policy of military aggrandizement, I have often known his voice to be heard a half hour after he had delivered a two hours' lecture in the Pathologisches Institut.

I think it is much to be regretted that Virchow devotes so much time to political matters. Though it may serve as a recreation to his many-sided mind, yet it has probably deprived our profession of many additional discoveries which he might have made, had his undivided attention been devoted to original research in medicine. The vast store of facts which experience and observation have laid up in his memory, give him a range of vision over the field of our science farther than that enjoyed by any living person. Standing upon such an Alpine summit, he would be able to point out and lay open routes of exploration into the domain of the unknown, which, without such a master, must long remain uncovered. I do not wish here to imply that medical men should

THE

SCIENTIFIC USE OF THE IM...

VALEDICTORY ADDRESS

TO THE

GRADUATING CLASS OF THE MEDICAL ... OF THE PACIFIC,

NOVEMBER, 1877,

By JOS. H. WYTHE, M.D.

Professor of Microscopy and Biology

THE SCIENTIFIC USE OF THE IMAGINATION.

BY J. H. WYTHE, M.D.

Valedictory Address to the Graduating Class of the Medical College of the Pacific.

Members of the Graduating Class of 1877:

By the appointment of my colleagues in the medical faculty, it becomes my duty to address you on their behalf, and welcome you to the ranks of a profession which is eminently laborious, studious and honorable. For reasons of a personal nature I should have been glad if this duty had been committed to another, yet I realize it to be an honor to act as the representative of your instructors in the various branches of medical science. It is an honor to be associated with gentlemen whose qualities of mind and heart, and whose self-sacrificing labors entitle them to public and private esteem. I consider it also an honor to address you as a class on the present occasion, and thus to have an additional claim upon your memories in the years to come. For many months past we have been associated in the lecture-room, and, by the aid of the microscope and its revelations, have been engaged in unraveling the minute structure of the human frame, tracking the laws of organization to their most secret recesses, classifying the phenomena of life, and tracing the most elementary characteristics of normal and diseased structure. I am glad of the opportunity to give my testimony, in this public way, to your studious pursuit of fundamental truth; to your patience and zeal in research, and to your uniform kindness and propriety of manners. It gives me great pleasure to express for myself, and in behalf of your teachers, our sincere congratulations that you have so far mastered the rudiments of medical science that you may now pursue an independent course of

study, and are judged worthy of public confidence in the treatment of disease. Be assured that we shall always feel a real interest in your welfare and future success, and shall be pleased to see you rise to the highest positions of respectability and eminence in your chosen profession, and to the enjoyment of an honorable competence in its pursuit.

It is customary, in addresses like the present, to direct attention to some theme of general interest, bearing upon the literature and progress of medicine. But at this point I feel how arduous is the task which has been imposed upon me. So much has been said, and so well said, upon the various topics to which the mind naturally recurs, that it is difficult to find an unexplored territory. The responsibility of physicians, the ethics of the medical profession, the history of the healing art, the importance of preventing disease, the sanitary regulation of our cities and towns, and many other themes of similar import, have been publicly treated in this manner by the ablest men of the profession, so that I come before you as a simple gleaner in fields already well reaped. A few practical thoughts are all I propose to give. I content myself, however, with the assurance that the grains are golden if they are but few, and that they contain a living, germinating principle of truth, which may multiply, under suitable conditions, to future harvests.

As a motto for the present discourse, I present you with a phrase which Professor Tyndall has made classic in our literature: "The Scientific Use of the Imagination."* I shall not now inquire if the illustrious essayist and experimenter has been careful himself to pursue the path which he has indicated to others, but shall confine myself to a few suggestions respecting the application of the principle to medical knowledge.

Imagination is a term given by writers on mental science to the power which the mind possesses of making images. It is that which gives birth to the productions of the poet and the painter, but it is just as essential to the philosopher and the physician, that they may have a real view of the subjects of their investigations. According to Mr. Stewart, imagination "is not a simple faculty of the mind. It pre-supposes abstraction to separate from each other qualities and circumstances which have been perceived in conjunction; and also judgment and taste to direct us in forming the combinations."

The term Fancy is often used as a synonym for imagination. It would be well if it could be limited to those images, or phantasies, which have no real basis in scientific knowledge, but at the best have only a resemblance to truth. Our language would thus be more exact, and we should not speak of imagination giving

"To nothing
A local habitation and a name;"

while the poet would be strictly accurate who declares that

"When nature rests,
Oft in her absence mimic fancy wakes
To imitate her, but, misjoining shapes,
Wild work produces oft, but most in dreams."

An eminent medical philosopher (*Feuchtersleben, Med. Psychology*) refers to imagination as that operation of the mind by which it receives, retains, recalls and combines, according to higher laws, the ideal images furnished to it by the *cœnæsthesis* and by the senses. The first step of this operation is called the faculty of conception; the second, memory; the third, reproductive fancy; and the fourth, productive fancy. The fourth degree of activity, where the imagination appears as productive, or creative, is what we are accustomed to call, in the stricter sense of the word, fancy; and in its spontaneity, poetic power. "It is here that the wonders of the intimate blending of mind and matter are brought to light, and in which the enigma of our mortal existence is peculiarly involved. Beneath this magic circle lies the material world, revealed to the senses; above it the intellectual world, revealed to the mind; and within it the dark or shadowy world of conjecture. While we willingly allow fancy her rights, and recognize them in the region of poetry and in the intellectual life of the mind, let us not be deprived of ours, in the empire of science, and let us visit her domain without suffering ourselves to be touched by the magic wand of this Circé. It is our business calmly to watch her steps, and where we are not able to follow them, faithfully to indicate their traces for the benefit of more fortunate explorers."

The scientific use of the imagination implies that our conceptions have a basis of actual fact, and are controlled by real knowledge. Science means classified knowledge, and nothing can be strictly scientific which is not known to be true. That

which is hypothetical, or unknown, may become a subject of the imagination, or productive fancy, but not of the imagination scientifically used.

I need scarcely argue before this audience that the control of the imagination is essential to a well regulated mind, yet I may be permitted to urge that fundamental truth is necessary to a scientific use of this power. Otherwise, the wildest creations of fancy may be mistaken for philosophical deductions, and the hands on the dial of progress be put far backwards. We regard as childish, if not absurd, the speculations of the ancients respecting the structure of the universe, known as the Ptolemaic system; yet that story was grand, inspiring, and logically consistent with itself. Its error was the fundamental one of an imaginary and unscientific basis. The same may be said of the old medical theory of the animal spirits, and of many other speculations which have filled a large space in the public estimation. It may be questioned whether in our own day, philosophy has not drifted somewhat from scientific Baconian moorings into the ancient sea of fanciful speculation. The tendency to do so is manifest, and the discussion of the causes of such a tendency would be an interesting exhibition of the natural bent of the human intellect. We speculate upon primordial fire-mists, which contain potentially all forms and forces, whether material or mental; on the motion of original vortices, producing successively rings, and satellites, and systems of worlds; and on the identity of all forms of vital and physical force; as if these had been proved to be scientifically true, and we often indulge in elaborate word-building, based upon the creations of our formative imagination, until the airy edifice we erect is as far as possible from sober scientific truth.

I would not deny the value of speculation in furnishing provisional hypotheses. I only claim that such imaginings should be regarded as merely provisional, and not used as unquestionable foundations of philosophic or scientific systems. The field of thought is wide enough, and grand enough, even when limited by that which is actually known, and every year is extending the boundary of real knowledge, so that the most adventurous scientific imagination has room for its excursions.

The great English physiologist, Dr. Carpenter, in his works on *Mental Physiology and Spiritualism*, has shown to what ex-

tent the prevalence of a dominant idea may mislead sincere minds, and become epidemic among great numbers of men. There is no security against such misleading tendencies save by rigidly basing our theories upon actual scientific truth. With an imaginary fulcrum, Fancy can move the world, or the universe, but the result will be illimitable Chaos. Theory piled on theory, as men invented cycles and epicycles in the old philosophy to account for the movements of the heavens, can never lead to elementary truth, or to a knowledge of the actual cosmos.

Professor Schleiden, of Jena, has given us an amusing illustration of this subject. He says: "Some years ago, I was very intimate with the directing physician of a large lunatic asylum, and I used industriously to avail myself of the liberty I thus obtained to visit at will the house and its inhabitants. One morning I entered the room of a madman, whose constantly varying hallucinations especially interested me. I found him crouching down by the stove, watching with close attention a saucepan, the contents of which he was carefully stirring. At the noise of my entrance, he turned round, and, with a face of the deepest importance, whispered: 'Hush! hush! don't disturb my little pigs; they will be ready directly.' Full of curiosity to know whither his diseased imagination had now led him, I approached nearer. 'You see,' said he, with the mysterious expression of an alchemist, 'here I have black puddings, pig's bones and bristles, in the saucepan, everything that is necessary; we only want the vital warmth, and the young pigs will be ready made again.' Laughable as this circumstance appeared to me at the time, it has often recurred to me since in seriousness when I have reflected on certain errors in science, and if the mere form of the delusion were the criterion of sanity or insanity, even many distinguished naturalists of our time would have to share the narrow cell of my unfortunate Mahlberg."

The history of medical science is full of instances of speculations which rest on assumed or unscientific grounds. Under the influence of the Pythagorean philosophy, which taught that fire is the prime origin of all matter, Hippocrates considered fever to be an increase in the original heat, or principle of life, and this conception, variously distorted, was influential in medical theories for nearly 2000 years. The Humoral theory, as it is

called, rested upon the idea that the four elements: fire, air, earth, and water, with the combination of four states or qualities: hot, cold, moist, and dry, gave rise to the four fluids or humors of the body: blood, phlegm, bile, and black bile, which produced the four temperaments, which in their turn tended to the excess or defect of the humors. The Solidists, on the contrary, considered disease as an increase or deficiency of tone in the solid fibres of the body. The Chemical school sought for the essence of disease in a sort of chemical fermentation of the fluids; while the Mechanical school regarded the body as a machine, subject only to physical laws and disease, as derangement in the system of tubes, etc., of which it is composed. The Homeopathists consider diseases and remedies to be dynamical, whatever may be meant by that term, and claim that this power is increased in remedies by trituration and dilution. The Brunonian system traced all diseases to increased or defective irritability. Broussais fixed upon irritation of the intestinal canal as the starting point of variously complex symptoms. Later still, fever has been considered a purely chemical process from the increased rapidity of combustion in the capillaries, while the present tendency is to locate all fever-exciting causes in the vaso-motor and excito-caloric centers in or just above the medulla oblongata.

Such theories rest upon assumptions more or less probable, according to the state of science existing at the time, but they can hardly be claimed as scientific. Most of them regard disease as something foreign to the organism, but which is forced upon it—some particular entity which assails us, but which has never been revealed to science.

It is the glory of modern medicine, that while it does not utterly condemn all theorizing, it teaches that it can only be provisional, and that all important progress must rest upon actual discoveries. Up to the present time nothing has so far penetrated towards a scientific knowledge of the seat and causes of disease as the study of normal and pathological histology in connection with physiology and clinical observation. Such investigations have taught us that morbid phenomena do not differ essentially from normal phenomena, since each morbid manifestation has its analogue in physiological conditions. They have taught us also that there are no specific pathological

forms. It was formerly thought that peculiarly formed cells existed in tubercle, sarcoma, and cancer, but the microscope has proved this to have been a mistake. "There is no radical difference between the forces and substances by means of which normal and morbid life is preserved; no important difference between physiological and pathological laws. The difference lies in the conditions under which the forces and substances of the body operate." (*Wagner's Gen. Pathology.*) Thus the work of the physician is removed from the sphere of speculation to the modification of the conditions of morbid life. The progress of experimental therapeutics is constantly furnishing us with agencies, some of them of great power, by which such modifications may be realized, so that it is not too much to assert that medicine is rapidly acquiring the character of an exact science. There will be no need for you to draw upon your imagination for facts, if you pursue with ordinary industry the methods indicated by your previous studies. I hazard nothing in saying that the unscientific use of the imagination is the prolific source of all heresy, and of all quackery, in medicine, in philosophy, and in religion. The magnetic baths of Mesmer, Perkins' metallic tractors, the dynamic force of infinitessimal doses of medicine, the old Grecian cosmogonies and their revival in modern times, electro-biology, and spiritualism, with a host of similar speculations and delusions, have no other foundation. Such theories may sometimes be found associated with facts, since some truth may exist in the wildest scheme of error ever imagined. The fatal objection to them all is their foundation on fancy instead of truth.

It is astonishing to see with what tenacity the disposition to forsake the sober walks of experimental truth for the shadowy realms of mystical imagination clings even to tolerably well educated men. Some time ago it was my privilege to visit the leper asylum in the Sandwich Islands, and on my return I gave a report of my observations in a medical society. At the close of my remarks a prominent physician, a man of general culture, expressed dissatisfaction with my report, since I had not demonstrated microscopically, and brought to the society for exhibition the *materies morbi*. As if there was any morbid material! As if such phenomena were not due to the perversion of normal structure and function! The objection reminded me of the old

want of harmony or proportion; and be of sound practical judgment, that he may draw correct inferences.

As to his professional knowledge, he should consider not what is old, nor what is new, but simply what is true. To attain this knowledge of truth, he keeps fresh in his mind the fundamental principles of anatomy, physiology and chemistry, and constantly applies them to his therapeutics and practice. He keeps fully abreast with the researches and discoveries of others, and spares no pains to provide himself with the means of testing their truth. With him science and experience go hand in hand, and before them disease, and often death, retire.

His heart is warm and full of courage, yet tender, sympathetic, generous, and above all, religious. He is incapable of a mean action. He acts under a sense of responsibility to his Creator. He is influenced by love to God and charity to all mankind. Knowing that his best efforts will be fruitless without the blessing of heaven, he neglects not to ask divine assistance for his professional as well as private duties.

Such, gentlemen, is my ideal of a good physician. Such have often shed luster on our profession. With untiring industry, unostentatious charity and unaffected piety, such men have lived on earth to bless mankind, and have been followed to the skies with the benedictions of all who knew their worth. Let us follow such examples, and we shall have the satisfaction to know that we have not lived and labored in vain.

FIFTY YEARS AGO.

AN ADDRESS

TO THE

GRADUATING CLASS OF THE MEDICAL COLLEGE OF THE PACIFIC FOR 1878,

By HENRY GIBBONS, Sr., M.D.,

Professor of the Principles and Practice of Medicine and Clinical Medicine.

A. L. Bancroft & Co., Printers

ADDRESS

TO THE

GRADUATING CLASS OF THE MEDICAL COLLEGE OF THE PACIFIC FOR 1878.

By HENRY GIBBONS, Sr., M.D.,
Professor of the Principles and Practice of Medicine and Clinical Medicine.

FIFTY YEARS AGO.

There is no law written or unwritten prescribing rules or limits to a farewell address to a graduating class. In this I rejoice, because it is my intention on the present occasion to take a course which critics might carp at if I had not so free a license. For five long months, you have been sitting daily at the students' table, your plates supplied continually with educational solids by no less than ten professional cooks, until, even if your mental digestion be unimpaired, I am sure your appetites are temporarily sated, and that you will not complain if for once I serve you up a light meal of knick-knacks from the confectioner's.

Half a century of professional service has forced on my observation many changes in medical practice and theory. There are reminiscences also of still earlier days, bearing on your chosen pursuit. It has occurred to me that you might be interested, if not more or less instructed, by the recital of some of these ancient recollections.

It is rather curious that the first incident of my life on record in my memory is blood-letting. I can see myself at this moment as I lay in my mother's lap, a mere infant, aroused from sleep to behold a stream of blood flowing from my arm, and my father, who was a physician, standing by with the murderous lancet in his hand. I had hooping-cough, as my mother informed me many years afterwards, and was not more than two years old. Much as bleeding was practiced in those days, there is no doubt there was something more than simple hooping-cough—some inflammatory complication—which was thought to require it. That I survived the process is evident.

And here let me interpolate the idea that the most indelible impressions on the mind of a child—those best remembered in after-life—are made by fear or terror, not by pain or pleasure. Of scores of incidents which befel me in the first four or five years of childhood, and which are as fresh in my mind as at the moment of their occurrence, scarcely one but was branded on the tablet by fright or dread. The corpse of a relative prepared for the grave with pennies on the eyes—the absence of my parents at the funeral associated with the idea that they were to be buried and that I should never see them again—dread of the rattling of the windows at night, which my nurse had told me was occasioned by the rats—falling before a horse in the street—disjointing the leg of a pet kitten by throwing it on the floor—such and such only are the ineffaceable records of my childhood. Next to fear, I think shame or mortification is the most powerful mordant. Most tenaciously has memory held fast to a punishment in this direction inflicted at an infant school, where I was compelled publicly to kiss one of the girls! Perhaps the hint might be turned to account in the training of children, that moral, not physical, impressions are thus lasting. My father was a rigid disciplinarian and I have no question made me feel the penalties of the law; and though I can remember a rich experience in this line when I had grown to rampant and rebellious boyhood, I have not the slightest recollection of parental chastisement during the first eight or ten years of life. I do remember however having suffered the *fear* of punishment when a mere child. I had called my grandmother a bad name and she threatened to tell my parents on their return—for they were absent for the day. The good old woman did not report

my offense—she did not intend to. But I suffered severely from apprehension. Had I been punished, it is quite probable, so curious is the working of memory, that the physical pain would have effaced all traces of the entire transaction.

The physicians of my native town were associated in what was called the "Medical Club of Wilmington," which met at the houses of the members in succession. The order of business was: First, the settling of quarrels; second, the discussion of medical questions; third, an oyster supper. Dr. James Tilton, one of the chief surgeons in the American army in the last war with Great Britain, was president of the club. He stood in the foremost ranks of the profession in his day, and besides, took much interest in fruit-culture. He was the first writer to describe the nature and habits of the curculio, so destructive to certain fruits. I recollect being kept waiting for my dinner one day, when a hungry school-boy, on account of my father having gone "to help cut off Dr. Tilton's leg." The doctor had what was called a "white swelling" of the knee-joint, for which the leg was amputated.

When the club met at my father's house, I was allowed the privilege of sitting up after my usual bed-time, to attend the meeting—that is, to come in at the end of the supper, for I could best appreciate that portion of the exercises. One meeting was occupied in settling a quarrel between two of the members whose names I could now mention; and my impression was that much time was needlessly spent on the subject. Dr. Tilton always presided at the table. He had extraordinary qualifications for that purpose. He had a laugh which was known as "Dr. Tilton's horse-laugh," and which it used to be said could be heard a mile.

About the year 1821, malarial fevers, which had hitherto been restricted in their annual visitation to the marshes and low lands immediately south of Wilmington, made a sudden irruption upon the high lands, and prevailed to an extent unknown before or since. The type was intermittent and remittent, the former tending speedily, if not arrested, to run into the latter, and the latter, in a large proportion of cases, prolonged into what was called typhoid. I wish to mention a circumstance which will prove that the statement often made that the old doctors of fifty years ago bled for everything, is not true. At the close of the

epidemic referred to, I have a distinct recollection of my father's remarking that he had had between one hundred and forty and one hundred and fifty cases of remittent fever during the season and had bled only in three instances; further, that he had lost but three patients and neither of those had been bled.

Peruvian bark was then the only efficient anti-periodic. Quinia and its associate alkaloids had not been discovered. One ounce of cinchona during the intermission, was the prescription in ague. Patients generally had the choice of taking it either in the form of infusion or powder; if in powder, a teaspoonful every hour for eight hours, which made up the ounce. In many instances the stomach would not tolerate such dosing, and substitutes were sought. I was the victim of numerous experiments in this direction, taking in turn iron, arsenic, charcoal, and even pills made of the web of the black spider, which has at various times had a high reputation as a cure for ague. But they all failed and I was forced back on the nauseating bark. Being the oldest son and apparently destined to tread in my father's footsteps, it occurred to my boyish mind that to make the bark into pills would be a good beginning for a medical education. And so I took a teaspoonful and mixed it with molasses, getting the mass too thin at first and then too thick, and winding up with the manufacture of thirty odd huge pills. All these I swallowed one after another, not without effort towards the last; and then the hour had come for the next dose. This terminated my interest in bark pills.

The discovery of quinia by the French chemists in 1820 was a blessing to humanity of incalculable value. A long time elapsed before it was manufactured in sufficient quantity and cheap enough for general use. I was the first person in the state of Delaware to take a dose of quinine. I was suffering severely with an obstinate quotidian, and unable to take the bark. My father wrote to Daniel B. Smith, a leading chemist and pharmacist in Philadelphia and one of the founders of the Philadelphia College of Pharmacy, requesting him to send by mail some of that new preparation of bark recently discovered in France. When it arrived, it was a matter of great curiosity. That eight grains of the white powder could do the work of an ounce of bark and arrest an intermittent, was scarcely credible. Chemistry was then just beginning to separate the active prin-

ciples of drugs and hand over to medical practice the invaluable alkaloids. The quinine was carefully weighed out, just eight grains, and dissolved in an ounce of water with ten drops of aromatic sulphuric acid. The utmost care was taken not to give it during fever. The fever having passed off, a teaspoonful every hour was cautiously administered. The next day, as the chill hour approached, my father watched anxiously for the result, and he was delighted that I entirely escaped—not more delighted however than myself.

For some years quinine was costly and scarce. So late as the winter of 1827-8, Professor Chapman, of the University of Pennsylvania, said to his class, as I find by referring to my manuscript notes made at the time, that if it could always be obtained, he would recommend nothing else to arrest the ague. It continued to be given with great caution, and only in the absence of fever. From eight to twelve grains was the limited quantity. According to my recollection, this dose was more decidedly and permanently effectual than the larger doses now employed. But the older doctors always prepared their patients for it by a mercurial purge, or an emetic, or a few blue pills. They had an eye to the condition of the liver and spleen and other organs which suffer from malarial disease. Their practice in this respect might well be imitated by the present generation of practitioners, who too generally depend altogether on the one remedy in the treatment of intermittent fever.

"The doctors in old times bled for everything"—so the story goes at present. But within the scope of my observation, they did no such thing. When a mere lad, my father trained me to do his bleeding. It was far from a mere mechanical art, indiscriminately practiced. Certain conditions were held indispensable, chief of which was a hard, corded pulse, indicating inflammation. The quantity of blood to be taken depended on the effect, to determine which the pulse was closely watched. The pulse was formerly studied much more closely than now. They relied on the *taxis eruditus* to detect conditions not revealed by the sphygmograph. What we, of this advanced period discover by instruments—by machinery, as it were, our fathers discovered by observation and study. Their estimate of the grade and the progress of a case of fever, founded on diligent investigation of all the conditions, subjective and objective, was quite as

available in regard to treatment as that which depends on the clinical thermometer.

That blood-letting was abused in former times can not be denied. But that so much mischief resulted as is alleged, or that the operation is capable of doing serious injury in a majority of cases to persons sick or well, are opinions which those only will hold who know nothing of it by personal observation. Multitudes of people were formerly bled once a year, on the return of spring, not because they were sick, but from the idea that they required it as a preservative or preventive. I have no doubt many were really benefited and very few injured. Women were bled during pregnancy as a safeguard; and particularly if they had pain in the head. That this practice was a protection against coming danger or disease, will scarcely be disputed.

When I was a student I was much annoyed by sleepiness and headache, which interfered with my studies. I bled myself and was so much relieved that I was led to repeat it when occasion required. Again and again, before going to bed, I would tie up my arm with the assistance of a younger brother and take a good sixteen ounces, rising afterwards in the morning fresh and vigorous. My arm bears the marks of at least twenty-five or thirty of these self-inflicted operations. This is narrated, not for the purpose of example or commendation, but merely to demonstrate what the present generation would scarcely believe, that a human being could survive such treatment. On looking back and attempting to trace the effect, I can not see that the practice reduced my force or in any way impaired my health or tended to shorten my life.

Bleeding was formerly practiced in the various forms of colic which resisted immediate means, with the idea of preventing inflammation. I remember when a boy that my father was once confined to his room for a day or two with lumbago, and placed his patients meanwhile in charge of a medical friend. One patient was reported as having violent and intractable colic, for which a copious bleeding was resorted to. A second bleeding was instituted without relief, and then my father suggested hernia, which was found to exist. An operation was the only recourse, and a consultation of surgeons assembled for the purpose. But the man persistently refused to be "cut open," and was left to his fate. Next morning I was sent to inquire if he was alive.

Instead of being dead, he was well. The stricture had yielded spontaneously in the night. The copious bloodletting had no doubt prevented inflammation and gangrene which would otherwise have ensued, and thus saved the man's life. I suggested to my father the publication of the case in a medical journal; but he answered that the case was exceptional and the report of it might do mischief by deterring from the operation.

When I was a student Broussais loomed up as a giant in medicine. His theory of disease was called "physiological." He traced nearly all morbid processes to the stomach and intestines, where an inflammation of the mucous membrane, or a *gastro-enterite*, took the initiative. Broussais was a very eloquent lecturer and captured his audience without an effort. It was said that on one occasion he declared that three fourths of the human family were suffering from gastro-enteritis without knowing it, the first symptoms consisting simply of a slight sense of warmth in the stomach, a slight degree of thirst, and a slight redness of the tongue and dryness of the mouth. Under the impression of his enthusiasm, the students after the lecture began to subject their tongues to one another's inspection, and to contemplate their own sensations. The result was that half of them discovered a lurking gastro-enteritis, and went home sick, eating no dinner and swallowing nothing but barley water, for this was the master's formula. Next morning starvation had reddened their tongues in reality and confirmed the diagnosis. It was added that Broussais had a busy day in visiting his neophytes who sent for him from all directions.

Professor Samuel Jackson entered the University of Pennsylvania as a lecturer on physiology about this time. He was an ardent disciple of Broussais and not less enthusiastic in support of the new physiological doctrines. Prior to that period however the old humoral pathology, which traced the origin of diseases mainly to the blood, was fast waning. John Redman Coxe, professor of materia medica, was its last public defender, and he went down like a hero with the sinking ship. Chapman taught the doctrines of solidism, which regarded the solid parts of the body as the first recipients of morbid action; and he was in the ascendant. Little did Chapman think, in that day of his triumph, that before his students were all dead solidism would vanish into smoke; nor Coxe, that the blood would resume its

place all over the world as the channel for the introduction of disease.

Under the impulse of the new doctrines, Professor Jackson wrote a rather voluminous work entitled "The American Practice of Medicine." But how fruitless may be the labor of a great mind, yielding to the force of enthusiasm, imagination, novelty, fashion! Scarcely had the book been issued from the press when the author disapproved of his own work, and it was said bought up the edition. It was the only volume that Jackson ever wrote, and its existence is now well nigh effaced from human history.

Permit me to relate a little anecdote of Dr. Coxe. The students wanted a week of holidays at Christmas, and appointed a committee to solicit the favor. I was one of that committee. We arranged the list of professors in a certain order for the work, Coxe not being at the head;—for students are always expert in the diagnosis of a professor's heart. We called on the members of the faculty one after another, and were surprised at the alacrity with which they consented to our wish, though there was something suspicious in the question which invariably followed: "Have you called on Dr. Coxe?"—At last we visited Professor Coxe. His answer was explicit and positive. "Cui bono? gentlemen, cui bono? If you can tell me cui bono? I will consent. No, gentlemen! I have been lecturing in the University thirty years, and I have absented myself from a lecture only on one occasion, and that was when I had to go to the funeral of my grandmother." No application for holidays was ever afterwards made until the venerable professor of materia medica had taken his departure.

To return to the subject of blood-letting—several causes conspired to discourage the practice. The abuse of it had some effect. Then a number of medical or quasi-medical sects appeared, which sought, in the universal spirit of trade, to build themselves up by abusing their competitors—homeopaths, hydropaths, Thompsonians, etc. And then it was time for a change of fashion—for medicine has its fashions like everything else. It takes longer to change them however than to change the fashion of dress—say twenty-five to thirty years. If a graduate in medicine were sure of living thirty years, it would be politic not to change his opinions with the crowd. He would find himself right by and by without budging.

An illustration of the extreme prejudice against bleeding came under my notice soon after the beginning of my practice. A Thompsonian doctor came to Wilmington to lecture on his system—or which was the same thing, to lecture against the regular practice. He denounced the doctors with the ferocity of a sand-hill orator and challenged all the regulars in Christendom to personal combat. The zeal and pugnacity of a youthful novitiate inspired me to defend the profession, and I incautiously placed myself in a position from which I could not recede without discredit. There was nothing left for me but to fight it out publicly. In the course of my defense, in order to show the necessity of blood-letting in certain cases, I pictured a man on the verge of apoplexy—his head throbbing violently from the pressure of blood—his arteries and veins distended with the superabundant fluid—his heart struggling heavily to impel the stagnating current through the channels of circulation—his face turgid and almost black with the accumulating blood, which was prepared in a moment to burst into the brain and hurl him to destruction—"What would you do in that case?"—I exclaimed. He answered with solemn emphasis—"I would pray God to have mercy on his soul." The victory was mine, for the audience expressed their decided preference, in that instance, to bleeding over prayer.

In common with the profession generally, I gave up the lancet some thirty years ago—nearly but not entirely. I am satisfied however that the extreme of disuse has done as much harm as did the opposite, if not more. Have we not seen serious, perhaps fatal, attacks of brain disease averted by bleeding from the nose—nature, not man, prescribing? How often does a hemorrhage from the lungs give temporary relief in pulmonary disease? You have seen a patient in the hospital who had such a hemorrhage six months ago, and which was regarded as a bad omen. But he improved afterwards and has been markedly better ever since. You remember the man in ward K, who was brought in to die—unconscious, unable to speak, or to swallow, or to move—in short, thoroughly comatose. Not a word of his history could be learned. Whether it was worth while to subject him to treatment was the question. But he was cupped on the back of the neck and a few ounces of blood taken, when he began to revive. He showed signs of pain in the head and was

cupped again, several times. Gradually his consciousness returned and then his speech, but it was a long time before he could stand or walk. You recollect my bleeding him in the arm one day when he complained of his head, and how he was relieved by it, and how he several times hinted that he would like another bleeding. That this patient would have died without cupping or something equivalent, is as sure as anything can be in prognosis.

About ten years ago I had a patient suffering with acute pulmonary congestion. He was breathing with great difficulty as he sat up in bed, and unable to make full inspiration. A consulting physician who was called in, advised whisky and quinine, to give a fillip to the heart as he said, so that the heart should be better able to drive the congested blood through the lungs. Although I thought this would only increase the difficulty, I waived my opinion and prescribed the whisky and quinine. In a few hours I was summoned again to the patient, and found him gasping for breath and his face almost livid. My associate was not on hand and I was compelled to take the entire responsibility. Addressing the sufferer, I said to him: "My father who has been in his grave twenty years has been whispering in my ear all day—Henry, why don't you bleed that patient?" I expected an emphatic negative, particularly as he was an Irishman, for of all nationalities an Irishman most dislikes to be bled, except in a certain manner. To my surprise he assented to the proposition; and in a very short time a copious stream was flowing from his arm. Presently he exclaimed as he drew a deeper breath—"Why, doctor, I can breathe better already!" And so he continued to breathe more and more freely as the lungs were relieved of their burthen and the circulation through them restored. With my finger on the pulse I awaited the moment of complete relief and then tied up the arm, having taken about twenty-four ounces. He lay down in bed, which he had not been able to do for two days, rested in perfect comfort, had no return of the difficulty, and in four or five days was walking the street. The relation of cause and effect was never more palpable than that of bleeding and cure in this instance. The patient, now a venerable gentleman of three score and ten and presenting the appearance of health and vigor, often meets me

in the street and greets me with the remark—"it's *that* bleeding saved my life." Such illustrations of the efficacy of blood-letting will invite from olden-time doctors a smile, as being commonplace and too familiar for recital. In truth there is not in the whole range of therapeutics a fact better established than the remedial power of venesection in disease, even to the extent in many cases of emergency, of saving life.

The loss of blood, by accident or otherwise, inflicts no lasting injury on a man whose blood-making machinery is in good order. What would be the effect if every individual in the present audience who is in the enjoyment of ordinary health, should be bled to-night, to the extent of eight or ten ounces? The probability is that no one would sleep the worse for it, and that no one would feel the weaker on rising for the duties of to-morrow. On the contrary many would feel lighter and better. There would be an immediate demand on the organs of digestion and assimilation to repair the loss. This would improve the appetite and invigorate all the physiological processes. Persons bleed almost to death from injuries, but recovery is complete and no permanent evils ensue. We may say of blood-letting what an old writer said of an occasional debauch—that it is "a good fillip to the constitution." I trust however that I shall not be considered as recommending either expedient for this purpose.

There is nothing peculiar in the views I have expressed regarding the disuse of venesection in modern practice. For some years past such views have been gathering force in various quarters, and the medical journals in different parts of the world indicate very clearly a disposition to resume the former practice under rational restrictions.

Topical blood-letting, by cupping and leeches, has never been so nearly discarded as general. But the fact that a very large number of practitioners have repudiated both alike, shows to what an extent medical practice has been influenced by an unprofessional and irrational prejudice.

Among the "lost arts," there is one the abandonment of which I condemn without qualification. I refer to the cutting of the gums in dentition. In discarding this simple expedient, our profession have thrown away a safe and valuable adjuvant in the management of infantile disorders. The only objections to

it are that it gives pain, that it hardens the gums so as to retard the advance of the tooth, and that it endangers hemorrhage. So far from giving pain, it relieves pain, and more still the intolerable itching which children suffer while teething. If hardness result from the cicatrization, it will facilitate the escape of the tooth instead of retarding it; for every tyro knows that a cicatrix is absorbed under pressure more readily than normal tissue. And as to the danger from hemorrhage, fifty years of constant and abundant experience in my own practice, and observation of the practice of others around me when the operation was universal, have failed to bring within my knowledge a solitary instance of serious hemorrhage caused by lancing the gums. On the other hand, again and again have I seen the infant, when fretting and twitching and starting as if on the brink of a convulsion, fall into a tranquil sleep immediately after the process. More than once have I known the child close its jaws to press the lancet into the itching gums. One child I remember who would run to meet me as I entered the house and open its mouth to invite what experience had taught it would relieve its suffering.

By lancing the gums I do not mean slicing off the prominence, nor yet making a crucial incision. These are superfluous, if not barbarous procedures. It is sufficient to scarify the swollen tissue in one direction, to relieve the tension and remove a few drops of blood from the engorged vessels.

Another bugbear of the period is calomel. In a former age the preparations of mercury were among the chief weapons of quacks. With them they performed their cures and built up their fame and fortune. Quacks of a later day discovered their interest in waging war against their old friend. In the early part of the present century mercurial preparations had grown into favor with physicians in all parts of the world, and calomel was administered by them habitually and recklessly. Outside of the profession it was used still more inconsiderately and lavishly. It would have been impossible for any other than a powerful and useful agent in the treatment of disease to gain and hold the popularity which it enjoyed. The evil was in its abuse. In chronic diseases, when other means had failed, it was a last resort. No person was allowed to die without giving calomel a chance of saving his life. Now and then a poor fellow rescued from death probably by salivation, lived to exhibit

the evil effects on his teeth and bones. Had he been permitted to go down quietly to the grave as would be done at the present day without poisoning him with calomel, the anti-mercurialists would have had no such target for their shafts.

The popular clamor against mercury, like that against bloodletting, instigated mainly by ignorant camp-followers on the skirts of the profession, gradually gained an influence over medical practice; one half the faculty honestly adopting the prejudice, the other yielding passively to the popular will. And so the good was thrown away with the bad. It were well for us, in the spirit of true philosophy, to gather up all the fragments of ancient medicine which are worthy of conservation, and to avoid extremes of use and disuse. And in this relation, we may well inquire whether the old practice of giving a dose of calomel in the onset of febrile attacks in children had not its advantages. Seldom can we determine in these cases what form the malady will take. It may be an ephemeral fever merely, it may be some specific or eruptive form. A single dose of calomel seldom—we might almost say never—salivates a child or produces any serious effects. Under these circumstances, its administration may do great good by removing hurtful matters from the body, arousing the action of all the organs concerned in digestion, and fitting the system for whatever subsequent treatment may be required. No other agent of the materia medica is capable of doing this as effectually.

Now for an item of family history under the old practice. I was the first-born of thirteen children—for my parents had not that hatred of offspring that characterizes the women of China, California, and some other countries styled "Christian" at the present day. In my father's daily absence I was the home physician, from earliest student life. Croup, convulsions, measles, whooping cough, typhoid fever, summer complaint, are stamped on my memory as continual visitors of the household. All were treated under the old system—bleeding, blistering, calomel, antimony, lancing the gums, and what not; and although the messenger frequently knocked at the door, yet there was not a death among us for fifty years after my birth. My mother, about the age of thirty-two, suffered from hepatic disease which held her life in suspense for some time, and for which she was salivated. She lived afterwards an active and

vigorous woman, to the age of eighty-three. Half of her family of children were born after her sickness and salivation, and they have given no indications of inherited evil.

In the early years of my practice I so far yielded to the prejudice against calomel as to refrain from prescribing it unless in my belief there was a special occasion for its use. I followed this course in the rearing of my own children, one or two of whom I believe never took a grain of mercury in any form, whilst it was repeatedly administered to others. I have never observed a shadow of evil from its use on the one hand, nor of good, on the other hand, from the abstention.

It was formerly the practice, in chronic disorders which had resisted other treatment, particularly in those of the viscera implicating the liver, to institute a course of mercury. Calomel or blue pill was given until its constitutional effect appeared in the mouth, or until "the gums were touched." The patient was kept in this condition for a longer or shorter time, according to circumstances, care being taken to avoid downright salivation. Not unfrequently the disease would begin to give way as soon as the constitutional effect of the mercury appeared. That lives were frequently saved by these means and health measurably or completely restored, I have not the least doubt. Nor do I doubt that lives are lost in our present advanced "physiological" practice, which would be saved by the mercurial treatment. "Empirical"—it may be called, or experimental, if you desire a more respectable term. The *modus operandi* you may not be able to explain. But if your patient have exhausted your systematized skill, and is manifestly going down to the chambers of death in spite of your science, your well-studied physiological and pathological deductions, and your well-applied therapeutics, I would advise you not to discard remedies because they rest merely on dull experience and because you can not see the why and wherefore of their action.

As with venesection so with mercury, the tide is turning. But a few years ago the latter was discarded by many practitioners in the treatment of the most loathsome scourge of modern civilization. Now, such ultraism is abandoned, and I do not know of a single writer or teacher of distinction who does not acknowledge the propriety of its use. That an agent possessed of the power to control and eradicate such a disease is not

adapted to other purposes, is a proposition too absurd for consideration.

Another victim of popular prejudice is antimony. The crusade against antimony did not begin in the profession. It had no foundation in rational therapeutics. On the contrary, it was started by ignorant sectaries—ignorant at least of medical science, such as the Thompsonians, Eclectics and Botanics. The chief argument against antimony was that it did not enter into the composition of the human body. On this ground all metallic medicines were discarded by the Botanics. There is nothing new in this style of reasoning. Centuries ago, iron was looked on as so dangerous a substance, that if it should be inadvertently taken into the stomach, a magnet was to be swallowed to prevent its entrance in the blood.

The clamor against antimony at length began to modify regular practice, and many physicians discarded it, substituting ipecacuanha. There was much reason for abating its lavish use; for, like calomel, it was often administered improperly, and much more so by the people than by the profession. When I was a student in a drug store the common emetic was tartarized antimony, and it was kept put up in powders of six grains, with printed directions to dissolve in six table-spoonfuls of water and take a spoonful every twenty minutes till it should cause vomiting. This was the popular practice. Physicians always discouraged such harsh medication. Indeed, the censure which sectaries and others are fond of throwing on the regular school of medicine, that it encourages dosing and drugging, has never had a foundation in truth. On the contrary, the reverse is true. Physicians have always been conservative in this respect, and the habit of dosing and drugging belongs to the people and is discouraged by the profession.

You will not understand me as proposing a return to the old practice, with its too great reliance on the "antiphlogistic system," and its too careless use of blood-letting, mercury and antimony. My protest is against discarding any active agent in consequence of its abuse; still more, in submission to popular prejudice. To eject from the materia medica any agent which possesses active therapeutic properties, is the rankest heresy of which a regular practitioner can be guilty, whether the condemnation be founded on the abuse of the remedy or any

other consideration. Were it otherwise, first and foremost should alcohol in every form be expelled forever. For what is there so abused, what is there so destructive to health and life? And yet there are physicians who, recoiling from the idea of abstracting a few ounces of blood or administering a dose of calomel, will drug their patients with whisky as though it were a universal panacea.

Were the lancet and mercury and antimony now for the first time brought in view as remedial agents, their power for good would be promptly discovered and recognized and the world would soon be ablaze with their trancendent merits. Physicians everywhere would arm themselves with the "NEW REMEDIES," and shout their triumph over the angel of death. Some modern Basil Valentine would rise up to write another "Currus Triumphalis Antimonii,"—women would run after the doctors and beg to be salivated—blood would flow in streams as it did in the last century in England, when the "Whitworth Doctors" advertised to bleed gratis every Sunday morning, and people came by the hundred and sat on either side of a long trough twenty or thirty in a row, whilst one doctor passed along to tap the vein and the other followed by the clock with the bandage. It is a great fault of our profession that we tire of old things because they are old and catch at new things because they are new. We allow an acknowledged leader in our ranks to foist upon us a new theory or a new treatment with the facility of a Parisian milliner who dictates the cut of a garment or the shape of a bonnet. Novelty passes for progress and originality for merit. In the theoretical department especially we let others think for us. How few physicians are there, for instance, who possess a proper understanding of the germ theory of disease now so popular. We adopt opinions and bind ourselves to them like a crowd at a town meeting, who vote on a resolution. A few vote in the affirmative and yet fewer or none at all in the negative, and the proposition is adopted and forthwith it becomes the creed of the mass. This is the reason why medical theories are so uncertain and fluctuating. This is the reason why we are so constantly changing front before the world. "Sell your weather-vane and buy an anchor," was the pithy advice once given to a versatile personage. Medicine needs more of the anchor—more stability, more conservatism, more solid deliber-

ation before shifting its course, and more resistance to the ever veering gales of novelty and fashion.

I know there is danger in attempting to hold fast to anything old, however good, against the popular tide. Such words as *progress* and *advanced thought* captivate the mind and carry away the crowd. Let a man who would think before acting hold back against the sensational impulse of the mass, all that is needed to ruin him is to point with the finger and cry "old fogy!" This is too often the penalty for independence in thought, stability in judgment, deliberation in action.

I desire to do an act of justice to the surgeons of fifty years ago, by giving them credit for much of the conservatism which is the boast of modern surgery. When I was a student and walking the wards of the old Pennsylvania Hospital in Pine street, Dr. Joseph Parrish being the surgeon, a lad was brought in with a gunshot wound of the leg a few inches below the knee. "You see," said that kindest-hearted of men, addressing the students, "that both bones are carried away, but that the great vessels have escaped. Twenty years ago we should have cut off this leg without hesitation. Then amputations were the boast of the surgeon; now they are his shame. Here is a boy with a long life probably before him. He has a good constitution. We must save that leg if possible." And the leg was saved, and the boy finally walked away without even limping. This was fifty-one years ago.

Much importance was formerly attached to diet, and in many chronic disorders the bill of fare was reduced almost to the point of starvation. The formula for vegetable soup was one potato, one turnip and one onion, boiled one hour in one quart of water. It was told of Dr. Physick, who was then at the head of the profession, that he directed a female patient to live on mush and molasses. The lady inquired if she could have milk with her mush. "Not a drop," was the answer. "Why, doctor," she exclaimed, "I shall not be able to eat any of it." "So much the better, madam," was the sententious reply.

An anecdote that I find in my notes of Professor Chapman's lectures, will serve to illustrate the perseverance which marked the treatment of chronic diseases in those days, and which was especially characteristic of Dr. Physick. Those two distinguished men attended in consultation a patient with some

chronic disease of the knee-joint, which they determined to treat by purging. The case was left entirely to Dr. Physick, at a period when it appeared hopeless. Six months afterwards, a gentleman walked briskly up to Dr. Chapman in the street and saluted him familiarly. But not being recognized, he informed the doctor that he was his old patient of the sore knee, and that he had been perfectly cured by taking one hundred and twenty-seven purges.

Dr. Physick filled the chair of Anatomy when I was a student and was about to retire altogether after a long and honorable career. He would frequently enter in the morning with the recent marks of cupping on his temples, being threatened, as he thought, with paralysis. I well remember the last lecture of his course, in which he protested earnestly against the practice of vivisection.

The old doctors were much better nurses than the modern, and paid more attention to little things connected with the comfort and welfare of their patients. They had a much better personal knowledge of drugs, growing out of the necessity of handling them more than is now done by physicians. And above all they were better versed in dietetics, and had a much wider range of drinks and aliments appropriate to the sick-room. Dr. Rush used to say that every physician ought to spend three months in the kitchen.

An impression prevails that people take less medicine than formerly, and we often hear the remark that doctors do not prescribe it in such quantities and doses as in olden time. This may be true of the doctors, but I think the reverse is true of the people. I suspect there never was a period in history when so much medicine was consumed in various forms and at so great cost in money, as at present. Only the simples and gross articles of former days have given way to an interminable list of patent and proprietary nostrums, which do good sometimes, principally because their ingredients are unknown. Let any one who doubts what I have said, visit our wholesale drug establishments, and he will see them packed from cellar to lofty skylight with such enormous piles of clap-trap trumpery as will cause him to marvel how a community that swallows so much perilous stuff can find room in the stomach for bread.

When the homeopaths whittled down the dose of medicine to

a quantity without length, breadth and thickness, and that divided into millions of parts and mixed with a little sugar, people thought the day of small things in medicine had come, and that the consumption of drugs would be diminished. But the contrary effect has taken place. So easy and so pleasant is it to take homeopathic medicine, that a sort of training in the art is established, and thus something grows out of nothing, and large doses follow. I believe homeopathy, by promoting a taste for medicine, has tended to enlarge the consumption of drugs.

The first stethoscope I ever saw was left at my father's for inspection by a traveling book-agent, together with the first American edition of *Laennec on the Chest*. It was a cylinder made of red cedar, with a bore running through it, and a movable cup or funnel at one end. My boyish curiosity led me to examine it again and again, but I could not in any way connect it with the book, or imagine its purposes. As near as I can recollect, my father made no attempt to use it, nor did one in a hundred doctors give the stethoscope the least attention for some years after it was introduced. The agent never returned for it or for the book. Doubtlessly he found his expected patrons so indifferent or stupid that he retired from the field in disgust, without even gathering up his distributed stock. The modern book-agent was not yet developed.

The speculum was unknown, or at least unemployed in America, until introduced by Dr. Sharpless, less than fifty years ago. Dr. Sharpless went to Paris to complete his medical studies and returned with that instrument; then very simple in its structure. But the innovation was condemned by the Philadelphia doctors, and its sanguine advocate actually lost caste with the profession on account of it. Now a physician would sooner do without a diploma than a speculum.

Soon after beginning the study of medicine, I was placed for a year in a retail drug-store in Philadelphia, for the purpose of acquiring a practical knowledge of the implements of our art. Here I attended a course of lectures in that invaluable institution, then recently founded, the Philadelphia College of Pharmacy—the pioneer and model of many others now in successful operation, including one in our own State. Dr. Geo. B. Wood was Professor of Chemistry, and Dr. Samuel Jackson, of Materia Medica and Pharmacy. It was in that institution that those

eminent men were trained for the duties which they afterwards so honorably discharged as Professors in the University of Pennsylvania. I have always considered the knowledge I acquired in that year as of incalculable value ever afterwards; and on looking back, I would not exchange it for the accumulations of any other year of my life.

Permit me to mention for your benefit, though not in the order of events, another useful experience. My father was in the habit of sending me, almost before the commencement of my student life, to sit up at night with such patients as were very ill and required special attention. On these occasions I was forced to act both as nurse and doctor—to watch the varying symptoms; to note the waning or growing pulse; to observe the respiration; to use my judgment in the administration of medicines—in short, it was a compulsory but valuable exercise of observation and judgment. I would advise every student of medicine to avail himself of such opportunities whenever they offer.

Were I called on to furnish a formula for the training of a practitioner of medicine, I should require good material to begin with, a proper preliminary education, a year in a retail drug-store with a course of lectures on Materia Medica and Chemistry in the College of Pharmacy; six months divided between nursing the sick and cooking for them, and then such a curriculum in a medical school as you have just concluded. And then a year or two of country practice, with its hardships and vicissitudes, would throw a ray of comfort over all future corporeal trials incident to his career. In short, the practice of medicine calls for a greater versatility of power, a greater depth of resources, a wider range of qualifications, than any other occupation among men. A doctor must be a mechanic, a nurse, a cook, a chemist, a pharmacist, an anatomist, a physiologist; he must have the wisdom of Solomon, the patience of Job, the independence of Diogenes, the philanthropy of Howard.

* * * * * *

On my voyage to California twenty-eight years ago, the supply of coal fell short when the steamer was near her destination, and it was necessary to stop somewhere for fuel. Monterey was not far off, but we were enveloped by a dense fog. We had compass and chart and motive power for present purpose, but

we could see nothing. The chart showed two bays, Monterey and Carmel, in close proximity. By heading to the unseen land we should strike one of those bays. But which one? Our captain noticed that the soundings in the former diminished rapidly, but very slowly in the other. The lead was put in requisition and the vessel steered directly to shore, but slowly, for there were five hundred lives at stake. "Twelve fathoms!" cried the man with the lead—"twelve and a half"—"twelve"—and so on, every soul on board listening intently, until at length he announced eleven—ten—eight! Instantly the engine was stopped, and then we heard the roar of the breakers close at hand. We had not stopped a second too soon. Changing the course and moving parallel to the shore, still slowly and with caution, the fog began to lift, and in a few minutes more, as it rose like a mighty curtain, the town of Monterey, bright and beautiful, lay directly before us. We were safe.

My friends! thus will you find yourselves befogged at times, and perhaps often, in the effort to conduct your patients across the sea of disease into the haven of health. Your diagnosis may be clear, your physiological chart distinct, your pathology exact, your therapeutic calculations accurate. But still you are on a dangerous ocean, which requires the exercise of all the powers and faculties within your reach. Be not over-confident in your judgment, or so blindly reliant on your theories and conclusions, or on those of your books and teachers, as to overlook any of the resources of observation and experience. When the horizon is hidden from sight, move only as the plummet of experience indicates the way of safety. And when the skies are dark and no friendly star pierces the gloom to offer its ray to your instrument, look beyond the stars, and remember the God of your fathers!

ADDRESS

DELIVERED BEFORE THE

CELSIAN SOCIETY,

OR

STUDENTS' ASSOCIATION

OF THE

MEDICAL COLLEGE OF THE PACIFIC.

September 6, 1879.

By L. C. Lane, M. D., Professor of Surgery.

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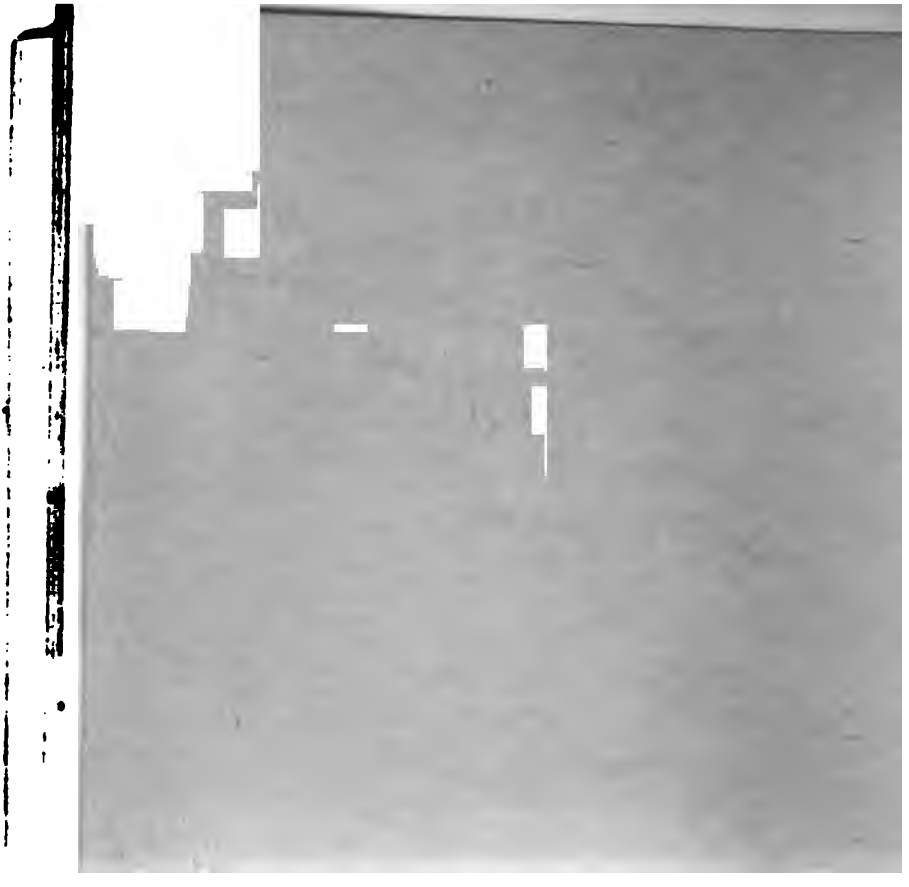

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[From the Pacific Medical and Surgical Journal.]

In traveling in the Orient one is continually annoyed by the importunities of mendicants who desire to sell him "antiques." While standing on the plains of the Nile, before the towering obelisk which alone remains of the once famous city of Heliopolis, and which as an imperishable gravestone marks the tomb of a once living city—while standing and admiring this noble shaft of granite, whose elements have proved harder than the tooth of time, or than the hammer-blows of thousands of departed centuries, a little child of the desert stole up to me, with eyes sparkling as a serpent's, and face from which the strong forces of early life beamed out, and with tongue which had not learned to fashion and deliver its Bedouin language "trippingly," and yet had mastered one word intelligible to the ear of the pilgrim from the North—viz., "antique," and as the word fell from its lips the child lifted towards my eyes a piece of colored pottery, which it desired to exchange for a penny.

Among the strange thoughts which arose on the spot where Egyptian science was once taught, and where Plato was a student and gathered those germs of philosophy which, returning to Greece, he planted in his own Athenian garden, where they grew

into as enduring forms as the Parthenon which casts its shadow on their birthplace, this incident still survives; and when I look upon the picture which memory has preserved of that day, in the foreground of which stand the pyramids, the obelisk of Heliopolis, the fountain of Mary, where in her flight from Herod she washed her infant's clothes, in a corner of the background stands the Bedouin child lifting its relic towards me and lisping "antique." Neither the Cheops, nor the Sphynx, nor the School of Plato, nor the City of the Sun shall be the theme of my discourse to you, but the Bedouin child suggests my subject, as I hold up to you this, the noblest of all antiques. This quaint antique is full of interest to the student of natural science, so much so that he is quite a stranger to the feeling which Yorick's skull provokes in Hamlet's breast when it makes him exclaim, "My very gorge rises at it;" but rather he would indulge in that poetic enthusiasm which warms the apostrophe of the Pilgrim of Childe Harold, when he exclaims, "Remove yon skull from out the scattered heaps."

But dropping the poetic and religious side of this bone, let me draw your attention to some special points about it. Your curiosity will be much awakened when you learn that the surface of this skull is marked with certain letters; in fact, that its surface has been chosen by some one as a tablet whereon to inscribe a series of hieroglyphics. And when these characters are studied in reference to their position and relations, I find that the placing has not been done at random, but has been so done as to correspond to, and indicate the original segments of development of the skull.

A survey of the history of science and philosophy shows that there has ever been an effort on the part of their cultivators to find some condensed formula, some brief deduction, which might serve as a master-key to unlock all the rooms of knowledge. Hence, in the Ionic philosophic school, Water, the unlimited, and Air, were successively selected as the cradle whence the infant Nature had emerged. Then Heraclitus invented the Stream of Things, or endless change, as the source of all that is. Then numbers, among which 1, 2, 3, 4 held precedence, were offered by Pythagoras as the wand whose magic touch could lift the veil which hides the face of Nature; and then Democritus and Leucippus offered the Atom as the indivisible indi-

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vidual whose unions and disunions account for all the phenomena of Nature, whether past or present; and after this comes the school of Zeno and others who dived far down into the ocean of metaphysics, and thought they had found the long-sought-for secret—viz., that what we see does not exist, that all that we see is but a series of deceptions, the whole being symbolized in the nonsensical statements that the "swift-footed Achilles cannot overtake the tortoise," and that "the flying arrow is at rest."

In such efforts as the preceding, the human mind vainly expended its energies for many generations, until finding that limited power cannot compass the illimitable domain of Nature, now limited their generalizations to narrower fields—fields in which facts had so been studied, connected and classified, that they could be marshaled in support of a general truth. Thus, in the field of Plants, Goethe found in the metamorphosis of the leaf, that from it are derived the bract, the sepal, the petal, the stamen and the pistil. And so, too, in the animal kingdom, Goethe, with Oken and Reichert as collaborators, discovered that the vertebra is the archetypal epitome of all the "backboned" or vertebrated class of animals; and carrying out this truth to its furthest conclusions, as the leaf is transformed into the components of the flower, so the vertebræ, by a change of form, furnish elements for building the cranium. As you have been taught that there are nine caudal and sacral, five lumbar, twelve dorsal and seven cervical vertebræ, so I will surprise you by telling you that you have not learned all, and that there are three more which constitute the skull, and which we might name the three capital vertebræ; and to individualize these, they may be called the posterior, middle and anterior capital vertebræ. Or, to retain the old names with which you are familiar, they may be named as the occipital, spheno-parietal and frontal bones. In the spinal column the vertebræ are fastened together by the upper and lower faces of their arches and bodies, the arches lying behind; in the erect position, the whole being piled upon each other. On the contrary, the vertebræ composing the skull, in standing, are placed alongside of each other, their arches being above, and their bodies forming the cranial base, and completing the inferior wall of the skull.

The curved expansions of these capital vertebræ are fused into a vaulted arch, which as an architectural wonder is more vener-

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able than any structure of the past. The columns of Karnak, the dome of St. Sophia's, the matchless vault of the Pantheon at Rome dedicated to all the Olympian Celestials, sink into insignificance when compared with this faultless arch. And why not? For did not the latter, once with lines more graceful than Saracenic or Gothic, form the incomparable arch of a living temple, beneath which intellect sat enthroned and moved the keys of this strange, eventful life?

In the development of anatomical science, as a reward for the labors done by preceding discoverers, posterity has given their names to certain parts of the animal structure. Thus, in the heart, the fetal foramen through the inter-ventricular wall will forever hold the name of Botallus; and in the "book and volume of the brain," the lesser wing of the sphenoid has written in imperishable characters the name of Sylvius, standing there in isolated majesty, "unmixed with lesser matter;" and, finally, in the skull, gratitude towards the openers-up of new wells of knowledge has shown itself in the names of Dugrassias and Blumenbach affixed to parts of the sphenoid, while immortality has chosen as the guardian of two of her favorite sons, the temporal bone, on the stony pyramid of which she has chiseled the names of Fallopius and Eustachius.

Now, as science has chosen to perpetuate the names of some of her children by inscribing them on the base of the skull, so some more recent hand has chosen the vault of this bone as the tablet whereon to write certain characters; and whether this hand was moved to this work from gratitude towards the past, or whether like youth it was full of the future and longed only for that which was to come, I will not attempt to decide. Yet, if I venture on conjecture on the subject, it is that this trilogistic enigma, Janus-like, is both retrospective and prospective in meaning, embracing within its compass, like the mind of Chalcas, both the past and the future. For when I examine these characters and group them together, I get the symbol C. E. L. S.—S., which, unmistakably refers to the famous old Roman, whose name you have chosen to designate your society. But behind this self-evident reference, if a commentator were to subject these characters to critical analysis, and to pull aside the veil which obscures them, he might find an additional meaning hid in them. With-

out a Damietta stone, I think these hieroglyphics may be translated to read: Courage, Excellence, Love of Self-Sacrifice. And with a reasonable license, much less than commentators often assume to themselves, as the three capital vertebræ, by their fusion constitute the encephalic vault in which the sun of intellect rises and shines during the day of human life, so these cardinal traits by their fusion make up the character of the physician.

On the anterior capital vertebræ, stands the symbol of courage, and so on the front outworks of a self-sustaining manhood or womanhood, this sentinel must hold sleepless watch; and not only here, but his influence must be felt in the heart of the citadel of life, otherwise, the Homeric taunt would hold true: "Thou dog in forehead, yet in heart a deer."

And we would add, this trait when genuine is joined to quietness; when counterfeit, it would fain impose on us by noise and ostentation. Without courage, the student could never overcome his natural aversion to flowing blood, the putrid wound, the reeking contents of the abscess; and a large share must be on hand to enable him to bear the fetters which bind him, Mazentius-like, to a dead body, while with forceps, fixing-chain and scalpel, he unravels the decaying tissues, in order to catch a glimpse of the hidden wheels of life. Courage, indeed, is needed in order to steel his heart and steady his hand, when in his duty as necropsist he coolly cuts and explores tissues saturated with death-bearing ichor, one atom of which engrafted in his own person would fatally poison him.

On the middle vertebra we find the symbol of excellence, having place there like a crown-jewel. When the business of a medical man is subjected to analytical examination, it will be found to consist mainly of work or works which at first sight appear unimportant and insignificant; but it is directly here that we find the amplest field for exercise of the aim of excellence. For example, to check the increasing curve of chronic deformity in the child, demands months of watchful care; and so, too, to palliate cough and the exhausting night-sweats of the consumptive, the faithful physician will ever find work enough to do. In labors such as these, units of excellence can hourly be treasured up, which, finally, will reach an enviable aggregate.

In the background of courage and excellence, we find the third cardinal trait whose symbols are written on the occipital vertebra of our cranium—viz., love of self-sacrifice. Along with the traits before-named, to complete the list, a third is needed which differs from them in this—viz., that while they are largely tinctured with selfishness, this is wholly involved in self-abnegation, looking entirely to the interests of others.

Chinese religion teaches its votaries to do not unto others what you would not that they should do to you. Reversing the form of this, we have the golden rule of Christian ethics; and as a modification of the latter, Compte, the oracle of modern positive philosophy, banishes the *ego* in teaching to live wholly for others, regardless of self. Altruism, as Compte designates his system of morals, figures largely in the daily duties of the physician. Personal sacrifice of the gravest character is often exacted of him; sacrifice of time, sacrifice of money, sacrifice of labor, and, anon, sacrifice of life. Within the last few years, Savannah, Norfolk, Memphis, and other plague-stricken cities, have given graves to many a brave son of Medicine, who had volunteered his services to battle with the yellow pestilence; thus exhibiting the highest example of self-sacrifice, thus realizing the possibility of putting into practice the altruistic doctrine, which by Shiel and others has been declared impossible. Nay, more, altruism has been carried beyond what was demanded by its author: not only to live for others, but to die for others has been the rule of action put into practice by many noble-hearted ones in our profession.

Besides the instances given of self-imposed exposure to pestilence and contagion, I take pleasure in citing as praiseworthy and most admirable, those devotees to therapeutic science, who to determine the action of untried remedies, instead of trusting to the equivocal results of administration to the lower animals, have chosen their own bodies for trial, and in a few cases have lost their lives in the experiment. The action of Calabar bean was first intelligently learned through the experiments of an Edinburgh physician upon himself, and in his final essays in which the maximum dose was tried, the effects were so violent that for a number of hours his colleagues despaired of saving his life. And in our own country, about eighteen years [illegible] young American physician of

Davenport, Iowa, in his enthusiasm in regard to chlorate of potash as a remedy in affections of the air-passages, determined to test the maximum dose which can be tolerated by the human body; and with that utter abnegation of self which the faithful in our profession impose upon themselves, he threw his own body into the fatal alembic, and death was the answer to his question. And as he heard this answer, and saw the dark shadows coming, destined to eclipse the sun of his life at midday, as Sir John Moore, though in the face of defeat and in the grasp of death, hoped that England would be satisfied with what he had done, so the hero, Fountain, hoped his experiment would not be lost to his profession. Nay, more, while standing in the chilling waves of mortality, he looked back to his professional brethren and asked them to carefully examine his body, even giving orders how this should be done, and where the lesions should be sought for, and that a record should be made of the same for the advancement of that science which he loved so earnestly, and on whose altar he had sacrificed his life.

In closing this lecture to an assemblage composed mainly of those but a few years the juniors of this youthful physician, I am glad to have had this opportunity of holding him up as a noble example of the love of self-sacrifice; and if I have aroused a respect for his devotion to our science, may the reverence awakened in your hearts be laid as a memorial wreath upon the gravestone of Fountain!

Valedictory Address

TO THE

GRADUATING CLASS

OF THE

MEDICAL COLLEGE OF THE PACIFIC.

BY C. N. ELLINWOOD, M. D., PROFESSOR OF PHYSIOLOGY.

W. B. Hinton & Co., Printers, 536 Clay Street, S. F.

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VALEDICTORY ADDRESS

To the Graduating Class of the Medical College of the Pacific, November, 1879.

BY C. N. ELLINWOOD, M. D., PROFESSOR OF PHYSIOLOGY.

Doctors in Medicine: You who are now admitted to the medical profession, we bid you welcome. You have been assiduous in your studies; you have successfully passed the examinations required by the college; you have justly earned the preferment here accorded you; you have achieved a success, and your teachers, the Faculty and the Trustees of the University congratulate you most heartily.

You are indeed favored in entering upon your professional career in these times of progress in the sciences and refinements in the arts. All these find their highest uses in their application to medicine, in the prevention and cure of disease, and so prolong the duration and increase the capabilities of human life. The many modern adaptations of mechanical principles and ingenious instruments now used in the diagnosis of disease and the treatment of it, have done much to advance the practice of medicine and surgery beyond the errors and uncertainties and crudeness of the past, into a more exact, unmistakable and refined present. Every invention by which our special senses of observation are rendered more acute and appreciative, as in the management of light, the conduction of sound, and the measure-

ment of heat, serve us in gaining a more exact knowledge of disease and a more rational way of combating it. The past few years have been prolific in furnishing such aids to the medical practitioner.

It has been said that the advancement in medicine does not keep pace with the progress made in other departments of human knowledge. In view of the rapid transit of thought, people and commodities of the world, and the many great achievements in physics which are such marked features of the present age, the statement may be true.

The advancement in medicine depends upon an increased knowledge of those complex phenomena, life, disease and death, involving not only the laws of *nature* but of *human nature*.

The physiologist, the anatomist, the chemist and the purest physicist work their way into these mysteries by *hope*, and entertain a belief much more comprehensive than their knowledge.

In fact, it is only of yesterday that we are able to establish any fixed and immutable order of nature; but now we know that although the harmonies may be infinitely varied, the vibrating chord is unchangeable; that the material atoms, the physical elements, and the forces inherent in them, have constant qualities, and under the same conditions yield the same results. The variations in the manifestations of life in health and disease are variations in the combinations or variations in their relations. But in the sub-stratum itself there is no variation, nor any in the resultant, where the conditions are the same. That is the law of nature; but obviously its course admits of infinite variations, expressed by conditions of health or disease. Calculate if you can the changes that can be rung on twenty bells of different tone and magnitude. But what are the resultants when twenty elements combine in infinitely changing proportions, who can express? Yet still this is but a part of the problem of the play of the physical atoms, which far from being inanimate things, are centers of active powers expressing themselves in various ways, of which we know at present only some, under the forms of motion, heat, and nerve force.

That the course of nature may be varied, we assume by this reinforcement of the medical profession in the addition of you new members to-night. The whole object of the science of medicine is based on this assumption, as it is the whole purpose of our

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knowledge to find out and obviate what is inimical to our systems, and to discover and promote what is favorable to us. That which we call health, which looks so fixed and stable, is but a relative condition of being, and is more changeable than the stability of the rainbow. Its maintenance depends upon the moving equilibrium of more forces than the mind of man can realize.

When that equilibrium of the vital forces is disturbed, it may be, by the absorption of noxious vapors, by the development of germs of disease, by the overwear and waste of tissue from mental strain or muscular effort, some color of the rainbow fades, or some portion of the arch is lost, and the discordant vibrations of the chords of life tell us health has been superceded by disease. The high sphere of medicine, the great interests at stake, and the difficulties of study when a human life is in question, together with the complex laws and subtle forces involved in vital phenomena, are causes for the slow advancement made in this field of scientific research.

It is expected of each of you that you will intelligently observe and record such facts as you are destined to meet in your chosen vocation, that you will find some fragment in the wrecked and broken vessels which will have a fitting place in the ark of discoveries, by which we may reach out from the known to the unknown.

With the growth of intelligence among the people and the diffusion of a knowledge of the highest political economy among those who govern, it is hoped that in the near future ways and means may be provided for continued scientific researches, bearing especially upon the causes of preventable diseases and the best means of protection against them. The sacrifice of human life by these causes has been greater than by war and the elements combined. They are obstacles to human progress of incalculable effect.

There is here suggested an unequaled field of labor for every one who loves his fellow man, who would deserve the honor and glory of the age and leave the greatest of blessings upon the world.

Our government has wisely established and with liberality maintains a life saving service, to operate along our sparsely peopled coasts to save life from shipwreck. This service has its intelligent corps of officers and men, made efficient by educa-

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ADDRESSES

ELIVERED ON THE OCCASION OF THE DEDICATION OF COOPER MEDICAL COLLEGE BUILDING,

BY

LEVI C. LANE,

M., M. D. (JEFFERSON AND BERLIN), PROFESSOR OF SURGERY, AND MEMBER OF THE ROYAL COLLEGE OF SURGEONS, LONDON;

AND BY

EDWARD R. TAYLOR,

A. L. BANCROFT & COMPANY, PRINTERS, SAN FRANCISCO.

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The exercises were commenced by conferring the Medical Doctorate upon the Students who had recently graduated in Pacific Medical College, (the name which the institution bore prior to its recent incorporation under the name of Cooper Medical College,) the formula used by Dr. Lane, (the donor of the property, and President of the institution,) being in language as follows:

Candidates for Graduation:

In the olden days of scholastic learning, the approach of the candidate to the baccalaureate threshhold was the scene of severe contest between him and the guardian authorities; and the witnesses to that occasion were entertained by the clangor of lances sharply wielded in dialectic battle, in which the candidate was compelled to prove himself fitted for the honors in question. Dismantling this famous ceremony of its ancient dress, I will still preserve the spirit of the same by formally announcing to those who are present to witness your graduation, that

you have complied with all the regulations of the Pacific Medical College; that you have successfully passed the annual examinations of a three years' course of medical instruction in that institution; in fine, that you have well run the appointed curriculum. As a reward therefor, the directors and faculty of the Cooper Medical College, under which name the former institution is now incorporated, have instructed me, its President, to confer upon each of you the degree of Doctor of Medicine, and to give to each of you the diploma of this institution as perpetual and universal evidence of such promotion.

DR. LANE'S ADDRESS.

Afterwards Dr. Lane delivered the following valedictory address:

Candidates for Graduation in the Science of Medicine:

There are times when it is well to forsake the usual road and to pursue a pathway hitherto untrodden. The present occasion in the history of our school gives such license, and permits me to cast aside the ceremonious dress with which the valedictory address is usually invested. During your long training of three years, medicine enough have you had, and mingled therewith a due amount of moral axioms and monitions; for your Faculty strongly believe, and diligently teach, that the professional character is sadly incomplete, unless high scientific training be conjoined with equally high morals. Besides, in the classic words of your diplomas, the same fact is reiterated. Leav-

ing, therefore, in a measure, these things aside, I invite you to accompany me in a journey which I recently made to the Sierras. There let us breathe afresh, and learn something new from the high as well as from the humble forms of nature, for we find the two commingled in the closest society. As examples of the lowly, I will first invite your attention to a blade of grass beneath a pine-tree, a leaf from the pine, and a hillock of ants near the root of the tree.

Near the eastern end or head of Lake Tahoe, and near the foot of the mountains which form there the wall of the lake, now stands an aged pine, if some covetous axe has not been laid at its root; and as I saw it a year ago the dense foliage of this tree did not allow a broken sunbeam to reach the earth around its huge trunk. In this sunless shadow a single blade of grass had sprung up, battling, as it grew, with a constant shower of missiles, yet defiant of javelin and Minnie-like cones, it had risen to a respectable height, and bending to and fro seemed to be bowing a welcome to me. Without the stimulus of noiseless sympathy, or the encouragement of approving applause, unaided by any but its own innate powers, this child of Nature had fought the battle of life well, and won the palm of successful existence. Napoleon-like it had survived a missile warfare where danger was as rife as at Lodi and Marengo, and was waving the banner of unscathed life. But its kinsmen, the scattered remnants of which were visible, had been less fortunate; destiny had assigned to them the lot of defeat, yet one was moved with sympathy for their misfortune, and

felt like applauding them, as once did Napoleon when meeting, on the road, wagons of the wounded which his own army had defeated, he turned his horse out of the way, and lifting his hat, he said: "Honor to the unfortunate brave." But, turning to our victor again, I observed that it had not only lived, but the numerous flowerets adorning its purple crown gave proof that, obedient to the laws of its being, it was providing for an ample succession. Whether these children, emulous of parental example, have equaled their mother in dogged struggle against adversity, or whether they have fallen in the pitiless warfare waged against them; whether they have drawn fair or dark lots from the urn of Fate, is not known; yet the sight of that one victorious stalk of grass remains with me as a pleasant memory, teaching what perseverance, even on a small scale, can accomplish; and the example taught by it is deserving of your imitation; for in the lower as well as in the higher walks of your professional lives, adversity must come; amidst its javelins learn to stand unflinching—unyielding.

Besides this lesson learned from this frail endogen, it teaches yet another, for growing from the inside, and sending out its shoots from the centre, so that the young and tender ones are surrounded and protected by the older and stronger leaves, it offers a perfect instance of self-development; thus growth and defensive fortification keep pace with each other. So in man, as in this little plant, permanency of character arises rather from inward than from outward growth, and if such character be your aim, start from the inside and thence grow. In the solution of life's

problem all depends on starting aright. Further illustration of this is the following incident: Some years ago, when in Berlin, I was an occasional listener to the lectures of the famous Helmholtz. On one occasion his hour was occupied in the solution of a problem of physics on the blackboard. The work consisted of a long series of algebraic quantities, presented in the form of equations. The final result reached, showed that an error had been made in some part of the work, when the professor started back and sought for the mistake. It was only after much worrying review that he found that a slight error had been made in the very commencement of the solution, and this little blunder had not only clung to the succeeding links of the work, but it grew as it progressed, and at the end wholly vitiated the conclusion.

In another stroll, while reading an epitomized summary of philosophy, in which a plea was made for philosophic study, and the utility of the same defended against the encroachments of natural science, the author showing in the work that the conclusions of Leibnitz were singularly close to and coincident with the discoveries of Newton; in the midst of these abstract reveries, my attention was called to something more concrete, in the form of a pine-leaf that dropped on my page, and for a time became the subject of thoughts, which are here offered.

Looked at, the fallen object was needle-shapen, half faded and quite in the sere of leaf-life, and not half as long as a line of my philosophic lecture; an insignificant, diminutive thing apparently, yet if one lifted it up and listened to

its story, he heard there much that is curious and instructive. This story is as follows: A few months ago it lay with a number of its fellows infolded in a brown bud, its destiny then being decided by its position on the parent-stem, for according as it occupied basial or apical site, it might become leaf, sepal, petal, stamen, pistil, or germ of a future tree; but it was assigned a position in the first class, leaving the other destinies to its superjacent brethren, viz: it became a leaf, and consequently part of the breathing apparatus of the huge organism to which it belonged; a breathing organ like that of the fish, unfolded instead of infolded; but unlike that of animals, there is an alternation of function here, that of the day being the reverse of that of night. This pulmonic vesicle of ever-acting chlorophyl has intimate affinities for air and light, and through the interchanging interaction between the subject and these media, the marvellous processes of plant life are maintained. This is an enviable and admirable breath-cell, since in the meshes of its delicate histology the hand of disease does no marring by the planting of tubercle cells; nor are its perfect walls disfigured by distending emphysema or collapsing atelectasis. Hence the pine with its incomparable breathing apparatus does not prematurely languish with phthisical decay.

The nutritive elaborations accomplished in this tiny workshop, were done noiselessly by the genius of organic life; in that laboratory no clashing was heard of the crucible, mortar, blow-pipe and furnace; the attentive ear could have caught no sound of bustle or confusion, as the chemist

was building his part of the colossal fabric; but with unerring aim he plied his craft, now selecting this, now rejecting that piece of building material, and so thoroughly accurate was he in all the details of his art, that without redundance, defect or mistake, he accomplished his task perfectly and without ever recurring to the archetypal sketch; and with equal accuracy and even more marvellous detail, the task was done when the workman's hand fashioned the floral leaflet, the staminate crown, the pistillate utricle, or the microscopic germ of a future conifer.

Besides, this leaf, though so insignificant in form, and in power apparently so feeble, had been more successful than the Titans of old, since it had caught the divine sunbeams and moulded them into chains, whereby the organic elements of the pine are held together in ever-enduring matrimonial union, and as forms of potential tension they become the equivalents of so much force in Nature's exchequer.

The fallen pine-leaf has had but a brief existence, measured by a few months of time only; but during this time it has done its work so well, that it has contributed to the growth of its parent, and affixed there a tablet that, untarnished by storm, season or time, will last for generations.

Hence, the tiny pine-leaf falling on the page of Fichte's subjective idealism, when one unfolded its scroll and read the curious history written there, was more replete with wisdom than I could find in the abstruse formulæ of mental philosophy; and thought, going a step further, told me that the great life-tree of humanity has likewise its leaves, of

which each one of us is a representative, each destined, if he works well, to leave upon the parent trunk a little tablet.

From the fallen leaf, my attention was next called to a hillock of ants near by; but, as its story is rather a long one, and also to follow the order of Nature in which the little and the great are equally commingled, we will next stroll to a cluster of pine-trees, seven in number. These natives of the forests, each one several centuries old, had grown to their present strength and stature within a few square yards of earth; nay, more, may grow for ages yet to come.

The savant Flourens, from a study of the life-time of animals, and deriving his rule from the period which is required for the animal to become fully grown, taught, in regard to the measure of human life, that the normal limit of man's life should be one hundred and twenty years. Tried by Flourens' rule, which, I regret to say, he failed to illustrate in his own life, the pine should live unendingly, since it never ceases to grow; it remains always in the freshness of youth—life and growth being coeval. The lover of antiquity need not go abroad to find objects to which he may do homage, for these trees have records of years upon them which antedate English civilization; but, unlike man, in whose face the markings of the years are traced, these trees have folded up the records of by-gone centuries, and buried them deeply in their hearts.

When one contemplates these trees, as examples of constructive skill, the study is full of interest and novelty.

This union of strength and majesty of form is the product of two factors—time and molecular force—and these, in magnitude, are inversely proportioned to one another, the factor time being the greater one. In a lecture which I once heard delivered by Becquerel, Professor of Physics at the Museum of Natural History, Paris, the idea was rendered probable that the processes of growth resident in the radicles of the plant are dependent upon electrical action. As in the animal body it has been demonstrated by Du Bois Reymond that there are constantly playing electric currents between the centre and circumference of living muscles and nerves, so it is probable that the terminal radicle of the plant is but a galvanic cell, consisting of two fluids—one the fluid of the adjacent earth holding numerous saline materials in suspension, and the other the organic fluids of the plant, the two being divided by a thin wall of vegetable substance. By a similar arrangement we know that electricity is set free and matter precipitated on the separating wall. In the plant the material thus precipitated from the outside, traverses by endosmosis the wall upon which it has been precipitated, and, being once admitted, becomes plastic matter. This galvanic element, superior to the chemist's, dispenses with amalgamation in order to constantly work, nor does it need cleansing, since the precious matter deposited on the plate is food for the plant, destined to be converted into bark, wood and leaf tissue. The latter, as before shown, becomes an ulterior refining and finishing workshop, in which the cruder matter, passed up from below, undergoes its final elaboration and refinement.

Thus we see that from materials abstracted from the earth, and which are so minute that no tactile corpuscle could appreciate them, nor auditory ossicle be moved by them, though they had fallen from a mountain height, nor could retinal rod perceive their impact—I resume—from such minute stones this edifice has been created, and in height made a peer of the Pyramids.

The voyager of the Rhine never fails to visit Cologne; or, as the Romans called it, Colonia, or Colony. If he remembers his Tacitus, this spot is remarkable to the traveler for having been the witness of a victory of words over swords, for it was near here that Germanicus quelled, with a few well-chosen words, a dangerous mutiny of the Roman army. But, besides this and other associations, mediæval architecture draws most persons here. Some centuries ago it was proposed to build at this place a cathedral, which, in architectural grandeur, should surpass anything then existing, and all the famous architects of the world were requested to furnish plans for the same. Among those competing was an ambitious builder, who, desirous of outstripping all the others, made a league with Satan (a personage, probably, not a little interested in the matter,) that if he would aid him in devising plans that would excel all the others, he should have his soul after death. Satan accepted the offer, and furnished a plan which, being the wonder and astonishment of all, was accepted as the best. But, like most fraudulent transactions, the architect's secret leaked out, and the faithful of the church were much mortified at the ill-plight in which the builder was placed; and

for the purpose of finding some refuge for him, they consulted Saint Ursula, who told them if they would secure the thigh-bone of Saint Peter, and place the same in the builder's hand when he came to die, it would nullify his pact with Satan. Thereupon an embassy was sent to Rome, the bone secured, and given to the builder. Satan, having discovered the trick that had been devised to defraud him of his rightful plunder, visited the builder, snatched the plans away from him, and, venting maledictions on his head, declared that thereafter no one should know the plan, nor in future should anyone know the architect's name; and, true to Satan's prediction, the plan of the original architect is not known, nor does any one know his name.

But a better fate awaits our temple-pine than has befallen the old Cathedral of Cologne. The architectural plan, according to which it was built, has been revealed to us by Galvani and Volta, the quivering foot of a frog touching the opening-spring of this great revelation.

How profoundly impressive, then, the thought, when seated among this group of pines, that countless electric batteries are at work under one's feet—countless forces, infinitely little, which the hand of Time applies slowly but incessantly upon the long arm of the lever that hoists the building material to the summit of this lofty fabric. As motive weights, Time silently adds hours and days to his arm, never ceasing until he gains the ascendant over the counterpoising material. But whence comes this building material? This introduces the lake and the mountain—

two other great objects of nature, to which we will next direct our attention. But before doing so, let us make a short diversion from the high to the lowly, and study a hillock of ants which have chosen the shadow of the pine as the site of their home; and as we do so, the intense activities of this busy community rivet both eye and thought to the spot.

Coming nearer to the ant-hill, and questioning one of the outstanding sentinels as to the polity, counsels and government of this little commonwealth, one learns not a few lessons of practical instruction. Though this insect occupies a low step in the scale of animal life, its neural centre having neither convolution nor other mark of intellectual ascent, yet one soon learned that what brains the ant does possess are well used. As proof of this, the wise of all times have borrowed instruction from the ants, and held them up as examples worthy of imitation. The Hebrew sage counsels the sluggard to go and learn wisdom of the ant; but the sluggard of our day, who has learned something of natural history, says that nothing can please him better than to have such an example to follow, as it has been observed that ants do not commence their labors until late in the forenoon. Perhaps the ant of Palestine was an earlier riser, as it is not probable that Solomon would have made such an error.

The ant can also boast of having suggested to Virgil one of his finest lines, and to La Fontaine one of his most popular fables. In this fable we are told how a light-hearted and frivolous grasshopper spent his precious sum-

mer hours in song and merriment, taking no lessons from passing time or current events; with no fear of a coming hour which would weigh with remorseless balance his uttermost garnering; nay, more, even smiling, when allusion was made to the future. Finally, the frosts of winter came, and found his storehouse empty. In his direful necessity, the profligate repaired to the castle of the ants, begging for food, but received as answer, that as he had sung during summer, so now he might during winter.

Besides these examples of wisdom for practical guides in life, chosen from the many which have been furnished by the ant, you will be pleased to learn that chemistry has received no trifling aid from its labors; moreover, that this little insect has been an indirect co-worker with us in the healing art, viz: it has furnished man with a delicately compounded substance, to-wit, formic acid, which needed but the addition of one element to it to render it the most perfect of pain-annulling agents. This gift of the ant to man was unheeded, and remained in the chemist's laboratory, a useless thing, until a Frenchman, by accident, added chlorine to it and gave the world chloroform. But man, with his wonted nature to ignore favors and obligations, as if to blot out all recognition of the favor which has been done him by the ant, has changed the nomenclature of chloroform from the terchloride of formyle to the terchloride of methyle.

Besides what we have learned from these insects, allow me to repeat the apostrophe which one of their sages made to me, as I sat musing at his side: "To quote the language

of your great Heyne, concerning the markings of the salamander's tail, there is more wisdom in the hieroglyphics chiselled on my sides than in the combined philosophy of Spinoza, Kant, Schelling and Hegel; the substance of the first, the subjectivity of the second and third, veiled under the mystic forms of the I and the not I, and the reason of Hegel, are mere vapory words; and though the metaphysical student may find pleasure in them, yet these are but useless words and intangible fancies; but if the hieroglyphics on my sides be truly translated, the true wisdom of life consists in useful occupation, whereby prudent provision for the future is made, avoiding all occupation where shadow is mistaken for reality."

The formic sage retired, and left me to reflect on the lesson which he had given; and to none is the lesson more appropriate than to you, whose hearts are full of youth, hope, and the future; for, when the frosts of winter have come, it will be of incalculable import to each of you, whether as the grasshopper you have idly sung the summer away, or, like the ant, have filled your storehouse with stores.

As we made our digression to the ant-hill, we were on the eve of considering the sources whence is derived the building material of the pine-tree, and this introduces the lake, on whose shores these meditative ramblings were made.

As one stands beside Lake Tahoe, and endeavors to form, in its diverse features, a conception which may be given in words, these features are so numerous that one

knows not how to commence the portrayal so as not to distort the picture, and he stands in that wavering uncertainty with which Scott has described one of Scotland's lakes:

> "The mountain shadows on her breast
> Were neither broken nor at rest;
> In bright uncertainty they lie,
> Like future joys to Fancy's eye."

At the foot of our group of seven pines, with one shore lying in our State and one in Nevada, lay this emerald gem in a framework of mountains, whose sides were covered with pine forests, and whose crests, here and there, were crowned with snow; emerald gem I have called it, yet it rather deserves the name of the most precious of stones; for, as Kepler conceived the fixed stars to twinkle like diamonds, because of their revolution, so the face of this lake, borrowing hue from sky, sun and cloud, presents a play of colors not excelled by a moving diamond, and as such, constitutes the brightest jewel in the diadem of two sister States; and securer than the Koh-i-noor, or the crown jewels of England, it will glitter there forever, since no prince's gold nor despoiling conqueror can ever wrest it from its Sierra casing.

Besides its matchless charm of coloring, our lake is equally remarkable for the purity of its waters; the water taken some distance from the shore is free from all admixture of foreign matter; a grand crucible in Nature's hand, where hydrogen and oxygen exist alone. "unmixed with baser matter." These waters, like a peerage jealous of a long and unalloyed lineage, are recruited only from ice and snow

on the surrounding mountains, the ice and snow in their turn having sprung from clouds that arose from the lake; water, cloud and snow being the links of a never-breaking chain; for existence, whether in the form of organic or inorganic phenomena, moves in fixed circles or orbits, which, according to Goethe, and more especially as elucidated by the master-mind of Moleschott, are governed by fixed iron and eternal laws, and this chain of recurring action originates in the heat of the sun, or, as Helmholtz would have us believe, from bodies falling on the sun; hence, in the face of the lake, with its many-colored features, along with the overshadowing cloud, and the snow on the mountain, we have glimpses of that conserved force which, born among the stars, disappeared in the fields of space, and, Arethusa-like, reappeared in these forms.

In the lake we have a true picture of the medical practitioner's life in its varied experiences, for, as it at times has its smooth unruffled face, so he has his days of smooth, even tenor, in which not a ripple occurs to vary uniformity; while these, again, are succeeded by those of rude and disastrous misfortune, in which failure and disaster mock each effort of the professional hand. In the midst of such shocks the man stands stupefied and dejected, half ready to believe that the principles of his art are valueless. In such trials the physician may receive comfort from the reflection that a certain amount of error is inseparable from all human effort, and that to reduce such failure he must ever be ready to meet it with renewed and more vigilant toil, for the storms on the lake of life will not continue always, but, perhaps,

even to-morrow, its frowning waves will sink to repose. From the lake, too, examples of this may be taken, that amid the fiercest tempests, the deep water underneath remains unmoved; and, as the waves of Tahoe are broken and brought to rest by their fixed Sierra wall, so the adverse billows which harass human life fall harmlessly when they strike against a well-disciplined mind.

A remarkable quality of the waters of this lake is their nearly uniform temperature; and though this degree in the deeper points approaches freezing, yet, except at the margin near the shore, it never freezes. This is accounted for by the absence of organic or other matter; hence is learned that purity of character gives independence; and, though winter is so near, yet these waters, secure in their incorruptible freedom, mock his efforts to place his hands upon them. Hence the lesson to you of adorning your professional mantles with the pearls of independence and integrity; adorned with such qualities, dishonor will vainly essay to grasp you in its wintry hand.

From the many-colored waters we turn our eyes to the mountains, which are a framework in which our lake picture is contained. As evening approaches, strange, weird shadows lie on their rocky summits; distance, sunlight, shadow, resting against a sky of peerless purity, all making a picture of such sublime character that words, let them be never so carefully chosen and cunningly mingled, can never reproduce its correct tintings. Colors, not words, and a master-hand like that of Bierstadt and Hill only can represent this scenery.

To increase, if possible, the strange sublimity of the scene as the sun sank behind the mountains of the western shore of the lake, numerous fires were seen that had been lighted by the native Indians. The smoke and flames of these fires, gleaming among the evergreen forests, resembled watch-fires and reminded me of Uhland's lines:

> "When the tower-bell tolls once below,
> And the watch-fires on high do glow,
> Then I'll descend the ranks among,
> Brandish my sword and sing my song.
> I am the mountain boy."

When the sublime impulses awakened by the view of this scenery have given place to cooler reflection, or, rather, when ecstasy has given place to analysis, one finds that nature here has indulged in forms of architecture in which Byzantine, Gothic and Moorish forms appear; nay, more, as the uncertain light of evening renders the view less distinct, one can easily conceive that he sees in the distance the many-pinnacled cathedral of Milano, with its towers and chiselled statues; but this Sierra cathedral, with its towers and statues chiselled out of gneiss and granite, escapes the discoloring touch which time has left on that at Milano, since draped in a snowy mantle, the former remains white forever.

The less imaginative chemist and geologist see in these rocky masses the building material of all plant and animal life. These are the primitive elements, cast up by volcanic force, from which plant and beast derived their solid constituents. These elements in Nature's treasury are far more valuable than gold and silver; the latter are mere

glittering baubles that she has formed to amuse her infant, man; while the former constitute the coin, current at her treasury. In the book of organic life, Nature traces with a pencil composed of these elements, the primordial sketch of every living thing. Yet as these mineral principles exist in yonder rocky turrets, they are locked up faster than ever miser's chest was closed against burglar's hand, and their security is still increased, since even in their fastnesses they are moulded into crystal forms of adamantine hardness.

But how unlock this iron safe, so securely barred against intruders? The keys thereto are tempest, wind, and ice, and released from its prison, this precious dust takes shape as bird, animal, forest meadow, leaf and flower. Hence the tiny grass-blade, the group of pine-trees, the hillock of ants, and all this landscape of beauteous forms, are the offspring of yonder mountain; and when this landscape, with all its inhabitants—having accomplished its destiny—has vanished from existence, then Nature, re-combining the scattered elements and adding new ones from her mountain storehouse, will produce again a new landscape to delight the eyes of other generations.

In our visit to the heart of the Sierras, we have seen some of the architectural wonders reared by the hand of Nature. I now call your attention, as I close, to another, reared by the hand of Art—in this building. To render her work enduring, and to erect a fabric that would defy the wasting touch of years, Art has borrowed from the Sierras, blocks of granite, and from the earth, indestr

building material. As such, it now stands complete in all the matchless perfection which care and study could devise —a monument to Elias S. Cooper, the prime originator and ardent promoter of medical education on the Pacific Coast.

In the last days of his fatal illness, I accompanied Cooper to the heart of the Sierras, with the hope, as he thought, that the breath of the pines and the mountain view might bring some relief to him; when, finally, it became plain that all was in vain, and that the fatal shaft could no longer be eluded, he spoke calmly of his impending dissolution; it was manifest that premature death was arresting but half finished much that he had purposed to do, and, at various times, during his illness, the destiny of the school which he had founded, was the matter of intense solicitude.

As Time, on a recent occasion, realized the wishes of a French patriot, who, dying before the establishment of the Republic, for which he had toiled and suffered so much, bade his old servant come and proclaim it over his grave, whenever that event should occur, so this audience, here seated, twenty years after Cooper's death, in sight of his last resting-place in Lone Mountain, in doing intellectual homage to his memory, announces that his work still lives. The granite tablet over the portals of this building, lasting as that of the Pantheon, whereon the memory of Bichat is emblazoned, announces the same truth; and the trained hands and cultured minds, who annually shall depart from this temple of learning, bearing scrolls on which his name is inscribed, will widely proclaim the same, and bear evidence that his work was not in vain, but that

"He builded better than he knew."

Could he have foreseen this, as mortality was laying its cold fingers on his heart, it would have caused it to beat for a moment again with freshened life, and would have thrown a beam of pure light athwart the gloomy shadow that coming death was projecting over him.

EDWARD R. TAYLOR'S ADDRESS.

Ladies and Gentlemen:

The occasion of our assembling is most auspicious and interesting. Not alone are we here for the purpose of bidding God-speed to those who have just been honored with the Doctorate of Medicine, but we are here as well for the purpose of dedicating this edifice to the sacred cause in which these graduates are now enlisted. And how appropriate, how beautiful this structure! Solid, yet not heavy; simple, yet not plain; costly, yet not pretentious. Being the work of a sincere heart, it is itself sincere. It tells no lie. It is exactly what it pretends to be. Its brick are not of the common sort, covered with plaster, and made to stand for what they are not—a wretched counterfeit; but they are of the finer sort that can afford to look into the eye of the world with the serene gaze of truth. Here we have no tawdry, meaningless ornamentation; no disjointed effects; no inharmonious relations; no ill-adaptation to purpose; but we, happily, as is rarely the case, have the reverse of all these. This edifice, the construction of which has excited so much public interest and curiosity, is, in truth, as a piece of architecture, a credit to the city—a thing of beauty and a joy forever, as every work of true art always is. Here, indeed, will Science find a fit abiding-place;

here, indeed, may she, surrounded with all things needful, delightedly work out ameliorations for suffering mankind.

This building is not the result of a sudden impulse. It has been the dream of a life-time ; an object to be attained, if attainment were humanly possible. There is nothing in connection with it that has not received the most thoughtful, the most affectionate consideration. There is no stone here that is not cemented to its fellow with the love of humanity and of science; and so cemented, may we not justly hope that this fabric will endure so long as man shall feel for man.

He who has wrought this work, has long lived among us. No name in this part of the world is more closely interwoven with medicine and with medical teaching than his. He has pursued his favorite studies with a persistence and self-abnegation which only those can appreciate who have had the honor of his intimate acquaintance. But nothing has been permitted by him to stand in the way of his duties as a teacher. In truth, these duties have ever been first in his thoughts, and it was solely at their call, that he caused the barren sand-hill of a twelve-month ago to bear the architectural flower whose blossoming we now celebrate. From the very beginning of his connection with medical teaching, now many years ago, such a structure as this, with fullest equipment, became one of the great aims of his life. That aim he has pursued steadily and unswervingly to its final achievement. That he has lived to see this day, is to him the supreme blessing. From the resources which have resulted from his professional labors, these stones have

risen; and they, together with the ground on which they stand, have been conveyed, as an unreserved donation, to a corporation but recently organized—the "COOPER MEDICAL COLLEGE—organized without capital stock, and with no view to pecuniary profit, and for the sole purpose of making the gift effective. This munificent donation is burdened with no condition whatever, except the single one that the property shall be solely devoted to the purpose of medical instruction. Should it ever be diverted by the corporation into any other channel, then the City and County of San Francisco are to take possession of it for public purposes. On behalf of Cooper Medical College, I am here to say that the corporation accepts this noble gift, and in its own name, and in the name of Medicine, to thank the donor for this, the culminating deed of a great career—a deed which is itself so eloquent that commendatory words seem lifeless in comparison. The money value of the donation is indeed great—for it bears the singular distinction of being the costliest gift of the kind ever made to medicine in the United States—but why speak of dollars and cents; for as compared with the spirit which prompted the offering, and which now vitalizes it, millions are as dross.

The name—"Cooper Medical College"—is significant and highly felicitous. It tells a story worth hearing and worth remembering. ELIAS SAMUEL COOPER was one of the most remarkable men among the many remarkable men that illuminated the early life of California. He was born with an ingrained love for the things of medicine, and early took to the scientific study of the human body, with a zeal

that knew no abatement till death cut prematurely short his brilliant career. Almost from the hour of his graduation he began to give private lessons in anatomy ; and from that time up to the hour of his fatal illness, he continued a teacher. Like thousands before him, his labors in the interest of his fellow-man were unappreciated, and against him was raised the hand of ignorant persecution. But he "still toiled on, hoped on," content if he could but gain the approval of his own conscience, and extend the domain of his medical knowledge. In the midst of his labors, the star of California, then blazing in the far west, caught his eye; it seemed to call him ; he obeyed the call ; and here he landed in the early spring of 1855. He had scarcely set foot upon the soil before he recommenced his professional labors with increased ardor, for here he found the climate particularly well adapted to successful dissection and the operations of surgery. It followed, as a matter of course, that he should soon become widely known, by reason of his great knowledge and skill as an operating surgeon. Being a man of great force of character, and endowed with exceptionally strong faculties for organization, he became the leading spirit in the formation of the State Medical Society, which, after some years of vigorous life, fell, only to rise again to renewed usefulness. These natural abilities, coupled with an energy that knew no relaxation, and a geniality of temperament that drew his friends to him as with "hooks of steel," enabled him to draw around himself an able band of teachers, who, catching the spirit of their leader, at once embraced their labors with the utmost en-

thusiasm. And thus, in this unpretentious but earnest way, was organized the first Medical College ever organized west of the Rocky Mountains. What these men lacked in equipment, they made up in zeal and knowledge, and in that close contact with the student, which is impossible in large institutions. The classes were small, as, under the circumstances, they could not but be; but the teaching was thorough and conscientious, and the students singularly earnest and high-minded. Some of them are now among the most reputable practitioners of medicine in this city, and one of them has long been an active constituent of the present Faculty—an honored son of an honored father. These pioneer teachers worked faithfully and well. They "scorned delights, and lived laborious days." They did good work—the one imperative thing for man to do in this world—did it not in the open blaze of day, but in quiet seclusion, and with no hope of pecuniary reward for the time and labor spent. Not for them the greed of gain, or the hand-clapping of the multitude, but simply the luxury of quiet hard work in the way of self-appointed duty. The world knows nothing of such labors; scarcely ever hears of the men who perform them; but what treasure the laborers lay up!—treasure "more to be desired than gold, yea, than much fine gold; sweeter, also, than honey and the honeycomb." The majority of them have passed away to "the silent halls of death," leaving memories we love to linger over, and names which are a precious heritage. But some of them, happily, have been spared to meet with us on this memorable evening, and, as we greet them, our welcome

swells to rejoicing, seeing them, as we do, still earnestly cultivating the vineyard which has known their labors for so many years.

There seemed to be something inherently vital in this pioneer school. There was, it is true, the break of a few years following Dr. Cooper's death; but, with that exception, it has pursued an unbroken course, until to-day we see it taking possession of this valuable property, and entering upon a new career resplendent with promise. The early days of the school were days of hard struggle; but to the intense nature of Cooper, difficulties were but incentives;

> "And as Æneas * * * * * *
> Did from the flames of Troy upon his shoulder
> The old Anchises bear,"

So did Cooper, upon his strong shoulders, bear this infant school through every peril that threatened its life. But with his death, disintegrating influences set in, and ere long its voice was heard no more. For a few years only this silence continued. The school was not dead; it did but sleep. It lay with all its potentiality still within it, and awaited, like the spell-bound beauty, but the touch of the proper hand, to spring once more into the whirling circle of busy Life. That touch came from the hand of two of those who had been with it from its birth; and at the touch, it arose from its slumber, and, like a giant refreshed by sleep, it entered with new vigor upon a course which it promises to hold as long as this city shall exist.

How fitting, then, that this College should bear the honored name of COOPER! It is, in truth, his monument,

and a monument he well deserves—deserves, not alone for the peculiar reasons already indicated, but deserves, as well, because of his great anatomical and surgical attainments, and because of his unfaltering devotion to the cause of medicine. He was, undoubtedly, an original man; his nature was essentially creative. He naturally disdained the beaten paths that mediocrity can, with moderate industry, tread with ease, and, plunging into the forest, he opened up new paths. It was his to lead, not to follow. Many of his operations were so bold as to startle even those accustomed to audacious surgery; and yet they were tempered with a prudence, and were carried to such favorable results, as to prove him a master of the first order. His knowledge of coarse anatomy seemed absolutely perfect, and he kept it so—as it can only be kept—by constant dissection. Nothing was left to chance in an operation. He saw his way clearly from beginning to finish, and never made the slightest incision without knowing what was under the point of his knife. He was never carried away by over-confidence, nor daunted by unforeseen difficulties. To him the human body was an infinitude, which could not be exhausted; and to the study of it he devoted himself utterly, thoroughly. It was, in sober truth, the altar of his self-immolation; for his labors were incessant. They felt no pause. He scarcely knew what it was to sleep as the ordinary man sleeps. The fires of his brain were constantly burning. No wonder that an intensity such as this did not last—wonder is it that it lasted so long. And so it was, that in the midst of his labors, while yet dreaming of a thousand things that remained

to be done, in October, 1862, and in the thirty-ninth year of his age, Death closed the book of his life.

He fell, as falls the hero, in the front rank, with blade in hand, and battling to the last gasp. And yet, he resigned his life without regret or complaint, speaking to his latest breath of triumphs yet to come, as glorious visions of the life beyond flitted before his fading sight. Thus died this gifted man, not rich in gold, except in gold of priceless deeds.

So also fell, at the early age of thirty-one, and from like causes, the great Bichat—the glory, in the last century, of French medicine, and one of the glories of the human race. These intense natures soon burn out, it is true; but what splendor of light they emit while living, and what radiant glories spring above their graves!

Though Cooper lived in California less than eight years, it is doubtful if any man here has influenced the course of medicine to anything like the same extent as he. And in this new College, the successor of that which he founded, and which will ever bear his name, the name of Cooper will not only be a potent influence, but a watchword to lead to high endeavor, to quenchless zeal, to tireless labor. Here, the torch that fell from Cooper's lifeless hand, will burn with increased splendor, and cast its illumination far beyond these walls. For it is as certain as anything human can be, that this institution is destined to a great future. If with all its previous difficulties, with insufficient accommodations and facilities, this school has grown to its present great development, what summit of excellence may it not reach,

with equipment such as, in a few years, the best Eastern colleges cannot hope to surpass, and with a faculty, such as it is sure to command, able, zealous and harmonious?

Medical instruction in San Francisco not only stands upon a firm basis, but it is, and will be, equal to every demand made upon it. The college, founded by the generosity of the late Dr. Toland, is now affiliated with the State University, and between the faculty of that school and of this, the most cordial relations exist. There is ample room and verge enough for two such institutions in San Francisco, and their only rivalry in the future promises to be as to who shall do the greatest good in a common cause.

Looking at this edifice, then, in the light of what has led up to it, how more than grand do its proportions seem! What a story it tells: A story of pure ambition, of self-sacrifice, of unfaltering devotion to a single aim! Looked at with the eye of sympathy, it becomes imbued with sentient being, and its beautiful turrets seem like human arms upraised in thanksgiving. It is not, no, it cannot be, so much stone and mortar cunningly designed and put together by the hand of the architect and builder. Even were it that, and nothing more; even had it been created in the grossest spirit of mercenary gain, still it would greatly please the eye, for it is indeed most excellent work. But it goes beyond the eye; it penetrates to the soul, and delivers a message there, that awakens the whole being and attunes it to music. In the presence of such as this, we stand with uncovered head, while Passion's rageful voice is

stilled, and Heaven's own peace fills all the air. In such a presence, the selfish, heartless struggle of man with man for worldly precedence; the accumulation of wealth for the mere sake of accumulation; the mad ambition for place and power, seem like the bitterest of mockeries, the vainest of delusions. In such a presence, what pessimist asks the question: "Is life worth living?"—what heart so hard as not to be touched until the waters of its better nature gush forth? In such a presence, do we not feel that self-abnegation—the doing for others in preference to the doing for oneself—is the one thing on this earth which overtops all other things? Ah, yes! it comes to us again and again, that it is worth all the rest; yea, a million times all the rest. For is it not the only *real* thing we possess—the one thing which gives the only pure, the only unalloyed satisfaction we can have? Do not all selfish pleasures cloy? Is there one in the whole list that does not? Is there a more unhappy creature on the face of the earth than the aimless dawdler, with wealth enough to satisfy every appetite, and whose sole thought is to meet each whim that in turn arises before him? Or who more pitiable and to be pitied than the one whose home is his bank vault, whose literature is his ledger, and whose daily circuit is round the rim of a dollar; "whose heart is dry as summer's dust," and whose unceasing cry is gold! gold! more gold!

"To the very verge of the churchyard mould."

Compared with such, a persecuted Spinoza, feeding on crusts in his fireless garret, while devoting himself to the

spiritual betterment of his kind, is a God seated on high Olympus, and living on nectar and ambrosia.

Take any one with a passion for accumulation, whether it be of money, or of rare books, or of pictures, or of pottery, or of coins, or of stamps, does he ever have enough? The more he gets, the more he wants, and the more he wants, the more he becomes dissatisfied. As Carlyle puts it in his rugged, forcible way:

"Will the whole Finance Ministers and Upholsterers and Confectioners of modern Europe undertake, in joint stock company, to make one shoeblack HAPPY? They cannot accomplish it above an hour or two; for the shoeblack has a soul quite other than his stomach, and would require, if you consider it, for his permanent satisfaction and saturation, simply this allotment, no more, and no less: *God's infinite universe altogether to himself, therein to enjoy infinitely, and fill every wish as it rose.* Oceans of Hochheimer; a throat like that of Ophiucus; speak not of them; to the infinite shoeblack they are as nothing. No sooner is your ocean filled, than he grumbles that it might have been of better vintage."

Paradoxical as it may seem, yet it is nevertheless true, that the more one does for others, the more one does for oneself. The more numerous the points at which man comes in sympathetic contact with his fellow-man, the broader and deeper his life. The most contracted boundary conceivable is that of Self; the most extended, the altruism of Jesus and Gautama—impossible of realization, doubtless, but the noblest ideal ever held up before man; the

striving toward which is the one only means whereby we can be saved from the world, the flesh and the devil. Far more than a half truth lies in these words, sung by the modern poet of Boodhism:

> "Ho! ye who suffer! Know
> Ye suffer from yourselves—none else compels;
> None other holds you that ye live and die,
> And whirl upon the wheel, and hug and kiss
> Its spokes of agony,
> Its tire of tears, its nave of nothingness."

That the desire for accumulation is natural, and when stimulated not for itself alone is worthy, and that to this desire we owe much of our progress and civilization no one will dispute; but that our present civilization is not deserving all the encomiums sometimes lavished upon it, there will likewise be little dispute. It is not a *real* thing—and by a real thing is meant a thing which bears the elements of permanent satisfaction; which holds within the heart of it no false pretenses; a sincere thing—neither sham nor counterfeit. Are the great masses of the people satisfied with this civilization? Is anybody entirely satisfied with it? Does any thoughtful person believe it will last unless it be subjected to the most heroic surgery? It is dominated by Self in the grossest form in which Self can be asserted—in laws made for the Few, and by the Few, at the expense of the Many. It is stained through and through with injustice. It is beginning to present those tremendous contrasts which have been the precursor of the death of so many previous civilizations:—palaces, luxury, and ever-increasing wealth at one end of the scale; and at the other end of it squalor,

slums, want, and ever-deepening poverty. It is a fearful fact to contemplate, that in the city of New York there are men who have added to their wealth as much as a million of dollars in a single day, while in the self-same city there are hundreds and hundreds who, hour after hour, hang upon the very verge of starvation.

How true are the words of Gœthe, that "It is only with Renunciation, that Life, properly speaking, can be said to begin." When a man steps out of himself, forgets himself for some one else; denies himself a comfort that some one in more need than he shall be benefitted, then he does the one great thing; then his heart runs over with silent joy; then he receives a pleasure such as nothing else under heaven can give him. This is the *real* thing; the rational pleasure; the pleasure that never cloys; and the pleasure that each of us can in a measure enjoy, if he will. To be sure, we cannot all build Medical Colleges out of the earnings of our labor, as gifts to suffering humanity; nor need we

" * * * * Wander lone,
Crownless and homeless that the world be helped;"

but the demon of selfishness, that lies in the heart of us all, can at least be scotched if it cannot quite be killed. If, out of our superabundance, and without any self-denial whatever, we give a penny to a homeless outcast in the street, for the moment we are exalted, for the moment we feel the breath of Heaven; but when, in the interest of humanity, we put Self under foot—Ah! then we walk the empyrean heights, and gather flowers that can never fade.

I once heard a true story which is worth repeating: An old fellow, without wife or child to bless him, who had, as every wealthy person has, a number of poor relations, but never thought of any of them, from one year's end to another, had shut himself up so within himself that his whole world became bounded by his own being, and his never-satisfied desires. One day, while sitting in his library, thoroughly miserable from self-tormenting thought, —the very books appearing to glower at him—a strange light, as from an angel presence, seemed to flash suddenly upon him. It illuminated his soul as it had never before been illuminated. He went to his desk, took from it his check-book, and, with a feeling he had never till then experienced, he drew checks for large amounts to the order of various of his needy relatives, and one of larger amount than all the rest, he filled in for a meritorious institution that long had in vain solicited him for aid. After the checks were signed and enclosed in their respective envelopes, he drew a long breath of great relief, and turning on himself, said:

"You old rascal! you dare to grow so selfish again, and I will give away your whole fortune!"

What is the essential difference between Byron and Burns, who, as poets, have so many points in common? Simply this, that the latter loses sight of himself, the former, never. The one had a genuine affection for every created thing—his heart was a welling spring of sympathy and love; the other spent his great powers in depicting his own miseries, and seemed to have no genuine love for any-

thing outside of himself. And so it is, that the universal world clasps Burns to its bosom, while it does but stand off at a distance, and coldly admire Byron.

Can we ever repeat Leigh Hunt's famous lines too often!

"Abou Ben Adhem (may his tribe increase!)
Awoke one night from a deep dream of peace,
And saw within the moonlight in his room,
Making it rich and like a lily in bloom,
An angel writing in a book of gold.
Exceeding peace had made Ben Adhem bold,
And to the Presence in the room he said:
'What writest thou?' The Vision raised its head,
And, with a look made of all sweet accord,
Answered, 'The names of those who love the Lord.'
'And is mine one?' said Abou. 'Nay, not so,'
Replied the Angel. Abou spoke more low,
But cheerly still, and said, 'I pray thee, then,
Write me as one who loves his fellow-men.'
The Angel wrote and vanished. The next night
It came again with a great wakening light,
And showed the names whom love of God had blessed,
And, lo! Ben Adhem's name led all the rest."

True to the associations that cluster around these college halls, we may be assured that no false doctrines will here be taught. There is but one practice of medicine, and the "old school," so-called, is its prophet—there can be, in the nature of things, none other. The public have been falsely educated to believe that there is an old-school of medicine as contra-distinguished from the new-school, and that the former, like the latter, is a system. But the difference between the two is immeasurable, and lies in this: The legitimate and only practice of medicine consists in doing anything and everything morally and scientifically right which the physician may deem to be of benefit to his patient. So long as he knows what he is doing, so long as

he can intelligently see his way, so long he is at liberty to use any element of earth, air or water, and any and all appliances whatever, and in any manner, quantity or form, that he can reasonably believe will meet the condition of the patient and conduce to his recovery. On the contrary, the new school (what the term may mean is hard to tell, for it embraces all modern respectable quackery) is bound within the rigid rules of certain systems, outside of which the practitioner is not permitted to range. If he be a homeopathist, he is honestly compelled to the observance of the rule of *similia similibus curantur*. That is, he must in every case administer that drug which will, in the well person, produce the same apparent symptoms observable in the sick; no other drug is admissible; and, furthermore, the medicine must be exhibited in certain prescribed dilutions or triturations. If the practitioner be an Eclectic or Thompsonian, he is confined to the vegetable world for his remedies; and if a Hydropathist, he is indissolubly wedded to cold water. And so on, through the whole list down to the chap who cures every conceivable ailment by the simple laying on of hands. The members of each of these classes are specialists as to remedy; they are hedged round, and bound in, by their respective systems, and if the case of the patient cannot be brought within the enclosure of the system, so much the worse for the patient. At all events the sufferer will have the satisfaction of having been done to death according to rule, and can take consolation from what was solemnly remarked, on a memorable occasion, that it

would never do to violate the eternal laws that govern such things, for the mere matter of saving human life.

If it be said that, practically, these followers of systems do not keep within their lines, and that, as occasion prompts, they go outside of them, then it is plain they are insincere; then it is plain they pretend to be one thing, and are, in reality, another thing; then it is plain they are not fit to practice medicine under any circumstances whatever; then it is plain they are pretenders, pure and simple.

But again, these systems have no scientific basis whatever; they are built on the sand. Nor have their promoters ever contributed to mankind anything of scientific value, while on the contrary, legitimate medicine is founded on the very rock of science, and her followers have, in every age, been such great discoverers, that the history of medicine and of medical men would well nigh constitute a complete history of science.

Thus it is manifest that that practice which is founded on scientific principles, and which looks only at the relief of the sick by any honest means attainable, is the one and only legitimate practice of medicine. And it is furthermore plain, that all strictures against the regular practitioner, for refusing to consult with these system-mongers, are made in ignorance of the subject. For there can be no intelligent relief devised for the patient, where the parties to the consultation hold such fundamentally different views. At all events, such relief could only be devised at the expense of honesty.

Legitimate medicine never stood firmer than she does

to-day. Her Past is glorious, her Present, bright, and her Future, secure. Holding fast, as she does, to the revelations of science, as science becomes more certain, so must the processes of medicine become more certain. She and science are so closely connected, that if one falls, the other must fall. But they will not fall, for they bear the seeds of invincible life. Linked arm in arm, they have marched grandly down the ages, and so will march on and on, for the spiritual and material betterment of mankind, "to the last syllable of recorded time." To them, with grateful hearts, we dedicate this College Edifice, rich in all blessed memories, and consecrated by the purest love for science and humanity; and consecrated, as well, by the undying affection of the founder for him, who in life held that affection dear, and whose bright name will ever shine resplendent on these walls. To-night we do, indeed, rejoice with exceeding great joy. Our hearts keep time together in sweetest music. We walk with those great souls who in every age have lived and toiled for man. In such blest hour the senses swim in spiritual seas and spurn all baser matter. In such blest hour Christ reigns in every heart.

And to him, Levi Cooper Lane, who has so wrought in the cause of humanity, whose gift in that cause we are here to acknowledge, do we not all turn, and fervently pray that every hope in connection with this institution may be more than fulfilled; that he shall live long in the land as the presiding genius of these halls; and that when the final summons comes, as come it must, it shall find his work complete, and exceeding peace within his heart.

And to you, graduates, who are probably expecting some parting monitions from me, I am spared the pleasant task of delivering a labored address to you, for I have but to point to the circumstances attending the erection of this building, to find the leading elements of the professional career—Concentration, Reticence, Prudence, and Self-sacrifice. Concentration, as shown in the unfaltering purpose of him whom we now honor; Reticence and Prudence illustrated in this, that despite the urgent inquisitiveness of a curious public, his purpose remained an undisturbed secret in the breast of the founder; and, as illustrative of that Self-sacrifice which your profession will often demand of you, none can be more impressive, none can be more eloquent, than the crowning act of the donor, who, not content with erecting this edifice out of the earnings of his own hands, makes his Renunciation complete, by writing on its walls the name of another in preference to his own.

Let the lesson of this hour remain with you ever and always; let no necessity compel, no temptation seduce, your feet to devious paths; but with onward stride, through every difficulty, danger and trial, may you "press toward the mark for the prize of your high calling." And remember, with the poet, that

> "We live in deeds, not years; in thoughts, not breaths;
> In feelings, not in figures on a dial;
> We should count time by heart-throbs. He most lives
> Who thinks most—feels the noblest—acts the best.
> Life's but a means unto an end—that end,
> Beginning, mean and end to all things—God!

VALEDICTORY ADDRESS

TO

THE GRADUATING CLASS

OF

OOPER MEDICAL COLLEGE

OCTOBER 31, 1884.

BY

J. O. HIRSCHFELDER,

PROF. CLINICAL MEDICINE.

SAN FRANCISCO:
Bacon & Company, Printers, 509 Clay Street.
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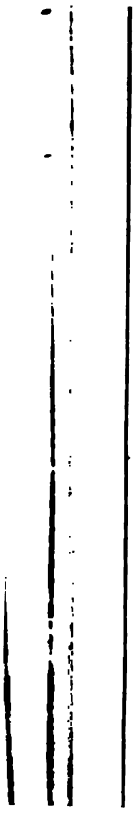

ADDRESS.

GRADUATES IN MEDICINE:

The Faculty of Cooper Medical College has honored me with the pleasant duty of addressing its parting words to you. During the years that you have been with us, we have striven to instruct you in the mysteries of medicine; and that we consider our self-imposed task to have been accomplished, is evinced by your presence here tonight as recipients of the highest gift it is our privilege to bestow. Your Alma Mater for three long years has nursed you in its loving arms, has lavished upon you its tend-rest cares, and tonight she clothes you, her beloved children, in the toga of virility. With just pride she looks back upon the pathway over which she has led you, and upon the rich fields in which you have reaped with her aid the golden harvest that stocked the storehouse of the mind. Nor has the road over which we have traveled always been as pleasant as that which lies before us this evening; no flowers have been strewn over the path, and no applause of kind friends and sounds of sweet music have stirred you on. Silently you have labored; toilsomely have climbed the rugged steps that lead to the temple of medicine which tonight you are entitled to enter.

Tonight you become the consecrated priests of Nature, clothed in the garb of wisdom, about to set forth upon your mission of mercy. And as we extend to you the hand of farewell, we beg leave to give you some parting instructions to guide you aright in the unknown sphere you are about to enter. From this moment the hours of your tutelage are over; you become your own masters and your own teachers. No roll-call will register your fidelity, and no examination will testify to your diligence; but your remissness will be marked by the silent tomb, and your triumphs on the hearts of those you will have restored to health and happiness.

Forget not that, however much you may already have learned, you are, as the name of this occasion indicates, but at the commencement of your labors. The science of medicine is so vast that a single mind can barely grasp all its details. It behooves you, therefore, to work incessantly; to work with the ardor of the devotee, not with the lukewarm heart of the bread earner. One little fact unknown may cost the life of him who, confiding in your skill, trusts to you; and if that ignorance have been avoidable, duty holds you morally responsible for the crime.

Minerva is a jealous goddess, and grants not her favors to those who give her but lip-service. Do not forget that the caravan of progress is hurrying unceasingly onwards; that he who loiters by the wayside will soon find that he has been left behind. It is your privilege to live in a century in which the most wonderful advances have been and are being made. The theory and the practice of medicine are no longer what they were when your ancestors went to school. No longer do we look upon disease as an external entity that enters the body and takes possession of the citadel of life. Disease is not a devil to be exorcised, but rather an inharmonious action of organs, which must become attuned to one another in order that health may return. We have learned to lift a corner of the mystic veil, and catch a glimpse into the wondrous human frame. We no longer search the constellations and the planets for the symbol that shall bring tidings of sorrow or of joy. We hear the ticking of the clock-work within us, we feel the pulsations of the blood current as the stream hurries on, carrying in its bosom the pabulum of health or the germ of disease. We listen to the songs of the air as it enters the labyrinth of the lungs, from the gentle murmur of health, like the rustling of leaves by the summer zephyr, to the hiss that reveals the lurking serpent of consumption. Our horoscope is drawn, not from the reading of the stars, but from the tracings of the sphygmograph, the rise and fall of the thermometer, the whispers of the stethoscope, the revelations of the magnifying glass and the test tube.

We have learned to question not only the living, but also the dead; have forced the reeking cadaver to tell us the sad story of human suffering and its cause. The revelations of the postmortem table have shown us what we can do, and what we cannot. They have destroyed our blind faith in the powers of drugs, but they have taught us where we may cure—where we can but alleviate

—where we are powerless; and from the ashes of the dead has arisen the spirit of rationalism.

Much as we have been taught by the study of the dead body, it, alone, could never have carried medical science from the mires of ignorance in which it had wallowed for centuries. Not ages of inquiry into the construction of the violin could have given us the faintest conception of the rhapsodies of a Paginini; and however much we might know of the anatomy of the body, that knowledge alone could never teach us how it acts. It remained for vivisection to solve the mysteries that anatomy had revealed.

Medicine of today owes its proud position to the secrets wrung from tortured frogs and dogs. The triumphs of the physiologist have become the triumphs of the physician, and every animal sacrificed on the altar of science has saved a suffering mortal from pain and death. The scientist, who reads the laws of life in the quivering entrails of an operated animal, is actuated by no feeling of cruelty. Brutality dwells not in the heart of the student of Nature; and in the groan of the animal he hears but re-echoed the cries of suffering mankind. Let blue stockings and sentimentalists turn their eyes from the laboratory of the physiologist to the hovels of their fellowmen. Let them wipe the tear of the suffering—let them feed the hungry, and clothe the naked; and when human suffering and human woe shall have been banished from earth, then may they grasp the arm that is raised to immolate an animal in order to rescue a fellowman.

The course of tuition through which you have successfully passed, has embraced three years of attendance upon medical lectures and clinics. You have had the advantages of ample dissecting material, and most excellent opportunities for practical work in a finely appointed chemical laboratory. Your clinical facilities have been most extensive, and as great as those enjoyed in the largest cities. Over two thousand cases have been yearly shown to you in the dispensary clinics alone, besides a large number that you have seen in the wards of the City and County Hospital. Almost every type of disease has been presented to you, and rich opportunities have been offered you for familiarizing yourselves with the class of ailments you will be called upon to treat in your professional life. While your teachers have not ignored your scientific training, it has been their chief purpose to make practical doctors of you. The cases you have seen you have not been compelled to look at with opera glasses from a dis-

tant seat of an amphitheatre. It has been your privilege to examine them carefully and closely. You have personally discovered the symptoms present; have yourselves made the diagnosis and under the guidance of your teachers have discussed the methods of treatment. To all intents and purposes during your senior year, you have been practicing physicians. We send you forth tonight, not inexperienced and green from the lecture-room, but practically familiar with the recognition and treatment of disease, although your colleagues who have studied in the large medical centres of Europe may be more thoroughly instructed in the cognate sciences.

America is a young country, with the virtues as well as the vices of youth. Utilitarianism is at the same time our strength and our weakness. We are not hampered with the moldy traditions of the past, nor with that conservatism which clings to the old, because it is old. But in the temple of liberty which we have erected upon this western hemisphere, we have built no fit habitation for the priests of science. We are, unfortunately, too apt to value scientific attainments for the immediate benefit we can derive from them, and not for their intrinsic worth. It is not strange, therefore, that with us the scientist and the scientific pursuits should be somewhat neglected; and it remains for the coming generations to make amends for the neglects of the past.

But if our institutions have not yet reached the stage of perfection they have attained in the old world, the future before us is none the less bright. In all departments of human activity, America has proven to the world that she accepts no position but the foremost. In commerce, in mechanics, and in inventions, she has wrested the palm from the other nations of the globe. And I doubt not in the years to come, the victories of science will likewise be hers. Young as is our nation she can already point with just pride to many of her favorite sons, whose names have been hewn in adamantine letters upon the monument of fame; whose memories will be revered by the generations to come. The genius of the American people recognizes no insurmountable obstacles. Let its attention once be as vigorously directed to the sciences as it has been to the mechanical arts, and we shall see that the revolutions it will bring about in the one sphere will be as great as they have been in the other. To accomplish this end we require institutions like those of Europe, with wealth and equipments, such that our scientists may labor undisturbed by the

fear of starvation. There is no doubt that the great discoveries of medicine have taken their origin among the earnest and patient workers of the old world. Institutions under the protection of the government with large subsidies, make it possible for men to devote their lives to abstract scientific pursuits; and the emoluments of the positions, and the respect considered the due of these great men make their labors profitable and pleasant. Were the Helmholz, the Liebigs, and the Virchows of Germany compelled to earn their bread in the practice of medicine, I doubt that their great discoveries would have been made.

A step in the right direction has already been taken. The Johns Hopkins' University of Baltimore has been established—equipped with perfect apparatus and extensive laboratories, and its richly salaried professors are asked only to labor for science. But we need more. Throughout our broad country chairs should be munificently endowed in our institutions of learning, that they may become scientific centres whose influence will be felt, not only in the new truths revealed, but more in the germs of thought they will spread broadcast through the land.

But you graduates in medicine, who tonight enter the ranks of the profession, you, likewise, have your duties to perform. Each of you, however humble, will, during his career, be able to contribute his mite to the stores of learning. Make notes of what you see and hear, and when you will have observed something new, let it become the common property of mankind. We have no secrets in medicine, and each gladly gives to all the knowledge he has acquired.

The life that you will have chosen when you enter upon the practice of medicine is, in many respects, not the most pleasant. A wise man has said, "If your son desire to become a physician, dissuade him; if he still persist, reason with him; if he yet be obdurate, implore him; but if nothing turn him from his purpose, give him God's blessing, for he will surely need it."

No sounding of trumpets or booming of cannon will reveal to the world that a new doctor is born; only a little sign on the door-post. Doctors are many, you soon think, and patients few. Anxiously you will wait, and it may be you will become disheartened. But be of good cheer. Those who have gone before you have fared no better, and soon it will be your turn to taste the bitter sweets of a busy practice. For you there will be no hours of rest, no times of recreation. The call of the sick will summon

you from your pleasures, and the cry of the suffering arouse you from your slumbers. At all times and in all places they may follow you. And, when with devoted care you will have ministered to the afflicted, it may be that the destroying angel of death will rob you of the life you had striven to save. It may be that instead of the gratitude and thanks your self-abnegation would merit, recrimination and ingratitude may be your portion. Perchance the death that was the inevitable due of nature outraged, may be ascribed to your lack of skill. These are moments that sorely try the faithful heart, and sour the milk of human kindness. But be steadfast in the knowledge of your righteousness, and if the little voice in the breast but whisper your acquittal, all will be well.

On the other hand, when success will have crowned your efforts, when you will have turned back the grim destroying hand, and fanned to radiance the flickering flame of life, yours will be the triumph and the glory. In the bright glance of the thankful eye and the warm pressure of the strengthened hand, will you find your rich reward. To you the anxious mother will turn in her distress, will read in your countenance the dictates of fate; in her eyes you are the all-powerful agent that can call back to health her disease-stricken child. The husband and the wife will eagerly await your coming, and catch the words that drop from your lips as you leave the sick-bed, thankful for each sign of consolation. The sick man will long for your footstep, and your presence will inspire him with hope. To them you are no longer the man they are accustomed to meet in the daily walks of life. A halo of mysticism surrounds you, and in their eyes you hold the scale of fate in your hands, able to turn the balance to the one side or the other.

In the practice of your profession there are many points that you will have to learn for yourselves. By far the larger number of cases you will be called upon to treat in the ordinary routine of practice are not necessarily fatal—they would get well of themselves. All that is necessary for the physician to do is to make the patient as comfortable as possible, to diminish the suffering that is the natural accompaniment of disease, to arrange the surroundings so that the disorder may pass off in as short a time as possible. In other words, in these cases it is more necessary to treat the patient than the disease. To a very great extent your success in life will depend upon the skill with which you

manipulate these trivial cases. Remember that your patient does not view his troubles from the objective standpoint that you do. A sore throat, which you know will pass off without medical treatment, represents to him not the pathological condition that your medical eye recognizes, but a fever that harasses him, a pain and a discomfort that he feels. These you are called upon to mitigate, and the more skilled you are in the management of these scientifically unimportant disorders, the more will you be rewarded with the thanks of your patient. Try to put yourself in his place. Some one has said that in order to be a good physician, one should himself first have been a patient. Your patient is not merely a case, but a suffering individual, who, as such, requires your sympathy. I do not mean, however, that you should cry over him, as is the custom of one of the quacks of our city. If you would succeed, show him, and especially her, that you are interested in the troubles before you; that all your capabilities are being called upon to bring relief, and that while not disposed to exaggerate the symptoms, you do not underestimate them.

But as you well know, a certain proportion of diseases do not run so favorable a course. There are many cases where all will depend upon the skill which you bring to bear upon the treatment. Here you are more than the sympathizer and the alleviator. Here you may be the rescuer. The patient does not know whether his disorder is one from which he would recover without medical treatment or not, and it is your duty in every case to examine him most carefully, so that your diagnosis may be as correct as possible. Examine your patient from head to foot, and ignore no symptom however trivial. We, physicians, have much to learn in this respect from the lawyers, who as a rule, enter more fully into the cases presented to them than is usual in our profession. Doctors are very apt to become routiners, and it is by far too much the custom to hear what the patient has to say—to look at the tongue, feel the pulse, and write a prescription.

We should learn to cross-examine our patients; to hunt for facts which they either forget, or willfully hide from us. Do not enter upon the examination with preconceived notions. Do not seek to find what you expect to find. Use the various aids to diagnosis—the chemical as well as the physical—that science has given you, but above all use your good common sense. With the greatest possible care there will be a certain number of cases

whose mystery you cannot unravel, but that number will b small in proportion to the thoroughness of your investigation

In your relations to your patients be gentlemanly and cour ous; avoid undue familiarity, and remember that they will hav confidence in you only so long as they respect you. Be honest wit your patients and do not deceive them. Of all crimes, dishonesty in a physician is the most despicable, for it is a gross violation a sacred confidence. You will enter into the most intimate rel tions with your clients; things will be revealed to you that n other eye is to see; words will be spoken that no other ear is t hear. Therefore, most scrupulously guard the secrets that ma be entrusted to your safe-keeping.

In your relations to your colleagues be guided by one maxim "Do unto them as you would that they should do unto you The code which you hear so much discussed at present is but th elaboration of this golden rule. You need not be told that whe you are in consultation with a fellow practitioner you are to absta from all words and all acts that would lessen his value in the ey of the patient. You need not be told that it is improper to ca slurs upon his professional standing, or to bear tales that would i jure his reputation in the community. From all such conduct th instincts of a gentleman will guard you.

When you have left these halls our connection will not be se ered. Your Alma Mater will still be the tender mother that fond watches over your footsteps, and it will be her greatest pleasu when tidings of your success reach her ears.

And now, Graduates in Medicine, your Alma Mater bids yo God speed upon your mission of mercy, not like the knights e rant of old to destroy, but to save. The dragons you are to va quish are the dragons of ignorance and superstition; the en mies you are to overcome are the diseases of your fellowme Let wisdom be your shield, and the mighty forces of N[illegible] your weapons.

Pure and unsullied you receive the escutcheon from ou tonight—pure and unsullied may it pass from your hand the struggles are over, and the battle of life ends in the s pose of the tomb.

ADDRESSES

OF THE

COMMENCEMENT EXERCISES

—OF—

COOPER MEDICAL COLLEGE

NOVEMBER, 1886.

—BY—

PROFESSOR J. H. WYTHE, M. D.

AND

W. C. BARTLETT, LL. D.

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OUR INDEBTEDNESS TO THE PAST.

VALEDICTORY ADDRESS AT COOPER MEDICAL COLLEGE, 1886.

BY PROF. J. H. WYTHE, M. D.

It has long been the custom of medical faculties to address some words of counsel and of good cheer to the graduating class before the severance of their relation as students and teachers. I have the honor to represent my colleagues this year, and I desire to remind you of our indebtedness to the past, believing that such remembrance will not only keep you steady on your chosen course, and save you from drifting into currents of unscientific speculation, but will also prove a healthy stimulus to continual advancement. I would by no means detract from the merits of the present age. Its activities are wonderful. All classes of society seem to be awake to the possibilities of life, and are pushing forward to the attainment of these possibilities with an earnestness only paralleled by the greatest epochs of history. The spirit of diffusion has taken possession of the modern mind, and knowledge, wealth, and comforts of life have spread abroad in channels tenfold wider than ever. Notwithstanding this diffusion, the mental efforts of the age are intensely energetic, resulting in wonderful discoveries, following each other in such quick succession as to make it difficult to enumerate them. Its energies are not wasted in imaginary speculations. Its aims are chiefly practical, so that nothing succeeds in winning public attention unless it promises some present or future good. Medical science has largely profited by these characteristics of the present time. The use of the thermometer, stethoscope, microscope, and chemical analysis, have wonderfully simplified the diagnosis of disease, while concentrated medicines, the hypodermic method of medication, and the use of chloroform and ether, have greatly improved medical treat-

the great development of social culture in those great centers of civilization which lay between the Nile and the Indus—monarchies having vast territories and innumerable tribes, capitals more extensive than our modern cities, and palaces as gorgeous as those of present rulers of nations. Wendell Phillips' great lecture on the "Lost Arts" directed our attention to numerous inventions which may contend for the palm with prominent modern discoveries. The sculptured ruins of Egypt and Assyria, so many specimens of which adorn the Louvre and the British Museum, reproduce in varying phases their daily life, their religious ceremonies, splendid furniture, gigantic cities, their wars, their cruelties and their conquests. Their hieroglyphic and cuneiform documents have been deciphered; their libraries of science and art, the records of their civilization and history, are spread before the modern student, as if they were but of yesterday.

Whatever opinions we may entertain respecting the origin of things, for the purposes of scientific study, we may distinguish in the past two great epochs. First, that of metaphysical research; secondly, that of physical discovery. The age of Pericles in Greece was the culmination of the first, and our own that of the second.

As all knowledge centers in medical science, both methods of research are necessary to its completeness; hence every age and school of thought has made contributions to medicine, and it may be profitable to make a brief sketch of the representatives of our profession as we find them towering above the fogs and clouds of imperfect historical records.

According to Ebers, we have medical papyri from Egypt, reaching back to the 18th dynasty, 1,600 years before Christ, representing the medical profession of that early period as thoroughly organized and well informed. A professional high school was attached to the temple of Seti at Thebes, and those who were disposed to study medicine, after passing the examination for the degree of Scribe, were sent to the most celebrated medical faculty at Heliopolis, whence they returned to Thebes, endowed with the highest honors in surgery, in ocular treatment, or in any other branch of their profession.

From the account given of the leprosy in the Pentateuch, we find that the Jews, either from the residence in Egypt or otherwise, had made considerable progress in medical knowledge,

and the references in the prophetical books of scripture imply the same thing. The author of the book of Ecclesiasticus teaches men to "honor the physician," and declares that the Lord "hath given men skill in medicine that He might be honored in his marvelous works."

In the twilight of Greek history we find Chiron and Æsculapius famous for their medical skill, and Pliny relates that in ancient pictures Achilles was often represented as scraping verdigris, or carbonate of copper, from the point of his javelin to sprinkle it on the wounds of Telephus. Homer represents the sage Nestor as saying:

"A wise physician, skilled our wounds to heal,
Is more than armies to the public weal."

I have said that the age of Pericles in Greece was the culmination of philosophical or metaphysical research. I do not mean by this that material advancement was neglected, any more than that the present age is neglectful of speculation. The age of Pericles was the most glorious period of Athenian history. Matchless colonades and temples were then built, which are yet the wonder of the world. It was the age of philosophers, orators and poets. To this period belong the writings of Hippocrates, the cotemporary of Socrates. On account of his native abilities and acquired information, and his lucid and complete account of the natural history of disease in general, he has been styled the Father of Medicine. His writings show that he was worthy of the admiration of his own and of succeeding years. The inhabitants of Argos voted him a statue of gold, and the Athenians conferred upon him the highest honors of the community

The works of Celsus in the first century of the Christian era, give ample evidence of the improvement of medical science and art since the time of Hippocrates.

Galen, in the 2nd century commented upon the works of Hippocrates and other authors who wrote before his own time, with such fidelity to nature, and exquisite discrimination that he became the chief authority upon all medical subjects for 1,300 years. In the latter part of the 6th and beginning of the 7th century history names Paulus Ægineta, distinguished as a general practitioner, but chiefly as a surgeon and obstetrician. His writings refer to many things not previously known.

The overthrow of Roman civilization by the tribes of the

north, and the burning of the vast Alexandrian library of 700,000 volumes when the Saracens captured Alexandria, in the year 640, transferred the seat of knowledge to Arabia and Persia, and for more than 600 years, down to the close of the 14th century, the history of medicine may be termed the Arabic period. It was based upon translations of such Greek authors as had escaped the flames, although much of original research was added. In the 8th century Bagdad, under the patronage of the Caliph Haroun-al-Raschid, could boast of its public hospitals and laboratories, and its many thousands of students. In this period we meet with the distinguished names of Rhazes, Avicenna, Albucasis, and Averroes, and during a large portion of the time, the celebrated medical school of Salerno, in Southern Italy, was the center from which medical science again radiated into Western and Southern Europe. The scholastic philosophy was the greatest hindrance to the re-enlightenment of the western nations, but with the advance of natural methods of study there has been corresponding progress in the knowledge of medicine.

The anatomical work of Vesalius in the 16th century and Harvey's discovery of the circulation of the blood in the 17th made possible the classic works of Sydenham, Boerhavé, Haller, Cullen, Hunter, Broussais, Bichat, and scores of others who are the ornaments of our profession.

As I am outlining a sketch, and not a history, it is impossible to mention more than a few of those whose genius and toil have advanced our knowledge to its present high position. The present century has been especially fertile of such. The names of Dupuytren and Velpeau in France, of Abernethy and Brodie in England, of Syme and Liston and Simpson in Scotland, of Colles and Hamilton in Ireland, Graefe and Rindfleisch in Germany, of Scarpa and Porta in Italy, as well as those of Physick, Gross, Mott, Parker, Van Buren, Warren, Stone, Dudley, Davis, and others of our own country, will live for centuries in grateful remembrance.

It would be almost unpardonable, even in a brief sketch, not to mention Marion Sims, who may be said to be the founder of modern gynecology, and Lister, whose antiseptic treatment of wounds made such a revolution in surgery.

It is a matter of genuine pride with every American surgeon that one of their own number, Dr. Ephraim McDowell of Kentcuky, was the first ovariotomist in the world, and that his fol-

lowers, Atlee, Peaslee, Spencer Wells, Keith, and Tait, have added thousands of years to the life of women.

With a feeling somewhat similar, I direct your attention to improvements in our science which are made nearer home. In September, 1886, at the annual meeting of the American Gynecological Society, held in Baltimore, the President, Dr. Thaddeus A. Reamy, of Cincinnati, referring to the total extirpation of the uterus for cancer, an operation whose good results speak favorably for it, says "the most rational method of performing the operation is the one devised by Dr. L. C. Lane, of California." The worthy President of our faculty wears his honors meekly, and we trust he will be spared to wear them long.

The rapid sketch we have made of the progress of medical knowledge shows it to be a river which is fed by numerous rills. It is also a treasure which is committed to its graduates for use and increase. It is no solitary conception, nor exclusive dogma, starting from the genius of a single mind, and carried out more or less faithfully by its followers. It is truth respecting the body and mind of man, as it has been filtered through the history of ages.

Such an origin of medical science renders it both conservative and progressive. It fosters research, suppresses abnormal enthusiasm, waits patiently for confirmation of theories, but accepts willingly proved and practical results. The present attitude of the profession towards what is known as the germ-theory is an illustration of my meaning. Hundreds of skilled observers are encouraged to work patiently, among the bacterial forms of life; each new addition to their life-history is carefully recorded and compared with what is already known; every practical suggestion which seems to promise aid in surgery or medicine is tried, yet, because of its conservative loyalty to absolute truth, medical science hesitates to pronounce bacteria, in every case, to be the causes of disease.

The origin of scientific medicine makes exclusive dogmas impossible to it. There were indeed many medical sectaries in the past, which is only another way of saying that there were many thoughtful enquiring minds, whose genius impressed their ideas upon their contemporaries; and it is not too much to say that all had some good in them, but a true physician cannot be held in bonds to any theory. The possibility of medical sects shows that our science encourages personal and independent thought. There has never been a pope nor council in science, to pro-

nounce, *ex cathedra*, upon a theory or opinion, and it is to be hoped that there never will be.

All history shows, however, that those who forsake the traditions and spurn the labors of the past are always ready to follow some *ignis fatuus* over the quagmire of uncertain speculation. Hence the vagaries and inconsistencies of the sect which follows the dogma *similia similibus curantur*. Hence the crudities of the vegetarians, who follow the lead of the Thompsonians. Hence also the gross ignorance of the so-called hygienic, electric, and physio-medical sect, and the rest of the genus.

The origin we attribute to true medical science renders progress in medical education a necessity. As the old fashioned apprenticeship to a country doctor is wholly unsuitable to the needs of our large cities, so the enlarged sphere of professional knowledge requires a frequent adjustment of the curriculum of study. A better elementary foundation will be necessary in the future. The time is not far distant when our medical colleges must demand for every matriculant, not merely such an educational drill as may be the result of a high-school or collegiate course in ordinary studies, but also an examination in elementary physics, chemistry and natural history. It is the study of these cognate sciences, to which the excess of the European period of pupillage over ours is largely to be attributed. We also need still longer courses of instruction. To cram into three years such a mass of principles and details as a respectable American college requires for graduation is a great trial of endurance. If we appropriated four years to it we should turn out healthier brains and stronger bodies.

Among the pleasant things to be noted in medical progress is the fact that our science is fast attaining an international position. The press makes all discoveries common property, and men of genius and industry are devoting themselves to disseminating scientific truth in all lands, so that in a few years it will be impossible to distinguish between American and English, or French and German systems of medicine and surgery.

Now and then a medical pedant may be found, who studiously ignores all save those of his own fatherland, or of his own set, but such examples are not numerous, and rapid intercommunication between nations soon brings on a common platform such workers as Billroth, Frey and Koch of Germany; Cornhill and Ranvier of France; Beale, Klein and McCheyne of England; and Sternberg of the United States. I select these names be-

cause their works are supplemental to each other and must be studied by one who desires to have an accurate view modern medicine.

Dr. Billings' address before the British Medical Associa last summer was a learned and eloquent effort, but largely apology for the large number of physicians in the United St in proportion to the population and for the superficial infer from that fact that they must be less skillful. The view ta by Prof. Wood in his introductory address in the Universit Pennsylvania, more than thirty years ago, of the differ between the European and American physician, seems to more applicable, as an explanation, "the American physi is the more practical, the European the more scientific." "T American is apt to cast a careless eye upon the obscure dep where he can see no bottom, passes unheedingly the curious beautiful results of minute investigation, which, whatever hereafter be the case, have yet, as he is disposed to thi yielded no practical fruits, and devotes himself to those quiries by which he can most surely make the sick man well, thereby at once satisfy his conscience and benevolence, and cure that good will and favorable opinion upon which he ho to build his fortunes."

To return from this not unnatural digression, I claim honest pride, and not in a spirit of boasting, that this inst tion stands in the front rank among colleges which provide l scientific and practical instruction, according to the true ge of medical progress. The proof of this is easy. In this coll there are two professors for each of the principal departm of surgery and general medicine—one whose duties are chi scientific and descriptive and the other for the clinical practical application of principles. As to normal and pa logical histology, so essential to an understanding of the na of disease, there are not a dozen medical schools in the l besides ours, which require three years study and examinat in this department, before graduation. As a consequence this high grade of work, our students quickly receive hon from older medical colleges in the east, as well as in Fra and Germany.

I can assure the graduates of Cooper Medical College you need never feel ashamed of the quality of instruction gi in our halls, and as we watch your course with commenda interest in the years to come, we believe we shall not be asha of you.

IDEALS OF PROFESSIONAL LIFE.

AN ADDRESS DELIVERED AT THE COMMENCEMENT OF COOPER MEDICAL COLLEGE, 1886.

BY W. C. BARTLETT, LL. D.

When the greatest of all teachers appeared in the world, he announced that he came not to destroy, but to save. The physician stands for the conservation of human life. That is his mission. Otherwise his profession is without significance. He is great or small as he honors that profession, or belittles it by unworthy aims and ends. He is more of a power in the world than ever before, because he may grasp all the experience and remedial knowledge of two thousand years. In some good sense, he is the heir of all the ages. For none of the substantial gains of medical science have ever been lost. Myths there have been, the adumbrations or shadows of things, which went back to the darkness out of which they came; theories there have been, which were received at the front door, and curtly dismissed at the back door. But among the lost arts, there is no record that any great discovery in the healing art has ever been lost. What has ever been gained for humanity has been gained for all time. These and kindred discoveries, are invested as it were, with the element of immortality. They are so infinitely precious that the world will not let them die. There can never be a nobler mission in this world of ours than that which undertakes to mitigate the ills of humanity. When some fool raises the question whether life is worth living, it may be said that in his case perhaps it is not, since there is a very great surplus of fools in the world, and the loss of one here and there can generally be made good with a line or two of obituary doggerel. But for a wholesome normal humanity that has entered into life, taken firm hold of it, surveyed its grand possibilities, caught the inspiration of discovery, of investigation, of wrestling with great problems, of mortal and immortal victories to be won along all the lines of human progress,—such lives never had so great a value as they have to-day.

And this unit of value has a higher expression because the greater gains of invention, of discovery, not only in medicine, but in the arts and sciences, are marshaled on the side of human life. The saving agencies are greater than the destroying ones. This beneficent preponderance of force will increase from age to age. Were it otherwise, the race would be doomed. No great cataclysm or convulsion of nature could work so disastrously as the combination of subtle agents which science has made, if once turned against humanity. The chemist knows the combination of dynamite. For him it is a grand discovery because it can be used to hew out pathways of commerce, to cut canals, bore tunnels through the mountains and blast away dangerous rocks on which ships have been wrecked. The anarchist, under an infernal inspiration, employs the same agent to murder a few men and to strike terror into others. The beneficent use is large, wide reaching, and dominant. The diabolical use limited, isolated, obscure. The scientist is honored because in the use of his agent the mountains are brought down to the plains. The anarchist is hung up as a scare-crow in the field. Drugs known to be subtle poisons are used extensively as remedial agents. The criminal use is relatively small. Electricity may explode deadly torpedoes under the sea, but its larger use is in sending messages of commerce, of love and grace and peace, over the land and under the sea.

Do you say that never before has science and inventive genius built up such destructive enginery for war? But do wars increase on that account? The hymn of peace is more pervasive and universal than the trumpet blasts of war. Even guns turned upon the enemy are not more destructive than fevers and epidemics in camps, whither the surgeon and the sanitary commission have gone, to snatch life out of the very jaws of death. More and more, as humanity progresses, all hostile and deadly forces are turned to the account of life and peace. Is it a vain prophecy, that the sum of mortal antagonisms will be ever decreasing, until finally, all the elements become obedient to human will?—tides, winds, atmospheres, electric currents, light, heat and cold in one concurrent ministry for the release from bondage and for the enlargement and enrichment of human life? Man is worth more than he was a thousand years ago, because the sum of his knowledge is greater which he can

urn to beneficent account. As he is worth more so is the physician, both personally and in his profession. More than to any others, the weakness, and the value and dignity of human life must be to him a great and ever present fact. There is no mystery about decay and final dissolution. For that process is going on, as far as we know, in all the universe. A dead butterfly, a dead man, and a dead world are only gradations in one line of retrocession; while the evolution and procession of life is eternal. If there be any mystery it is in life itself, and greatest at the point where matter and spirit are linked together, and act and react upon each other. The learned physician never underrates the value of metaphysics. It is good to be wide-eyed, to have sharpness of vision, to know something of the constitution of a human soul, to perceive how physical disorders bring on mental hallucinations, and how a disordered mind preys upon the body, until little by little this human wreckage is complete.

Just here is an indefinable realm for subtle conceptions and for the play of the finest remedial skill. The disciplined student enters cautiously here. He disdains to play upon human credulity. He works intelligently, and by well appointed means. He observes that all along this border land the quack and the charlatan have set up their tents. This ignorant volubility plays against a mountain of credulity. Ever and again Carlyle's satire is recalled: "There are thirty-five millions of people in England, mostly fools." The changes are rung upon the old platitudes that all diseases of the body are merely imaginary, and that when the mind is once brought into a healthy condition all disease disappears. This spiritual sanitation by means of quackery is as old as the record of humanity. The magician, the enchantress, the Indian doctor, and all the ignorant hosts of empirics and pretenders play upon the imagination. And whether it be divination, sorcery or diabolism, it is only part of an old system in which science has no part, and crafty pretense is exalted by many tongues. The broad avenue of approach is the old one. The uninformed are superstitious, they have faith in whatever is wierd, occult and mysterious. In their minds, it has a supernatural element, an all prevailing hidden force, something from above or beneath employed for the mastery of disease. The medicine man among the Indians practices this diabolism. The more hideous his contortions, the more he croons, dances and shouts, the more certainly the

patient believes the devil will be driven out of him. exorcism is universal among ignorant peoples. The cu process has little value unless it is involved in myster brought about by occult means. This vein of superst healing can be traced along the course of more than thousand years. It has no true relation to science, for as applied to medicine, is as open as the day. It is ever front challenging investigation, turning the light on every theory, demanding that every discovery in the realm of he shall at once be made known for the benefit of huma

Wherever a community rises to the higher planes of in gence, quackery will be outlawed. Great is the calamity the people are willing and eager to pay a premium for cheat and every sham that brazen impostors offer as rem agents. The latter day curse is disguised in the charlatan plays upon the ignorance and superstition of a part of the munity and profits by nostrums and juggling, while his vi hasten on to death. The superstitious negro resorts to v ism to put the devil into his adversary. The less superst Indian resorts to incantations and diabolism to drive him And the ignorant quack resorts to nostrums and occult prac to keep him in. Against all these abuses of human cred society needs some measure of protection. For as sure community cannot have learned and competent men in the fession of medicine, it will accept and tolerate the unlearn the boastful and noisy pretender—for ignorance every w fraternizes with ignorance. And the intelligence and moral vation of a community can be pretty accurately gauged at time by the number of charlatans and impostors sustained its patronage. Why for years have some hundreds, if not th sands, resorted for medical aid to a Chinese quack who was norant of the circulation of the blood, and knew no more a human anatomy than a donkey knows of Greek? And wh a city of 275,000 people, was the office of coroner filled pretentious charlatan whose ignorance of medical science been only less conspicuous than his rabble rousing haran on sandlots and on street corners? Over against this night are set the institution and the men who are called to hon great profession by separating it from this mass of ignora and imposition as far as heaven is from earth.

Of medicine more than of any other profession it may be

that all the lines of modern scientific investigation either interlace with it, or are parallels which converging, sooner or later, may run into it. Nothing in the whole range of human knowledge can come amiss. The medical scientist takes up the microscope to study the germs of disease. This new and marvelous scrutiny takes him beyond all unaided vision into outlying worlds, and nearer than ever before to the awful mystery of life and death. There is the revelation of protoplasms and cells—of microbes and bacteria—of atoms and diatoms—of worlds above and worlds beneath—of dust under the feet, either pulsing with life or having some secret to yield up for the benefit of humanity. All the lower forms of life have some relation to the higher ones. Botany and the biology of plants are his garden reservations for scientific enquiry. Chemistry and mineralogy are but annexes of his medical laboratory. And so by whatsoever side door he shall enter any of these outlying and related kingdoms, he will come back to his main vocation a broader and better equipped man. The time has come when more than ever before, it is required of men in the learned professions that they shall know, not only one thing well, but many things. And no men ever needed the key of the universe more than they who are called to be eyes to the blind and feet to the lame, and a living hope and inspiration to those hovering between life and death.

The dominion of man over nature is only known along some border lands. It is not supernaturalism, but a wider and more profound knowledge of what is in nature. When philosophy comes to declare that the universe is composed of two things—nature and the soul—it leaves us there each to find out as best he can, the absolute and eternal order of things. What is drawn from books and human experience is only a partial equipment. The gates of a vast outlying kingdom are all ajar. The reign of law, of matter and spirit, and of an infinite intelligence over it all, is complete. The great end to be sought is to find the law and to give it a right interpretation. Just as these discoveries progress the modern miracles of healing disappear. No one can set bounds to the possibilities of great discoveries even in the near future. If fifty years ago one had said: "I shall live to see the day when the surgeon will cut off a man's legs and he shall know no pain;" the natural response would have been: "Ah, then you expect to see miracles!" The day came, and there was no miracle, only one going a little before, entered in

through one of the gates that stood ajar, and thenceforth a great cry and sob of pain was hushed in the world.

If the professional man makes occasional excursions into the fields of literature he will be enriched thereby. It is good sometimes to browse in large pastures, to find the spice bushes, the mints and balsams that impart a new flavor to life. Literature counteracts certain narrowing tendencies of an exclusively professional life. One needs to get over the wall and see what there is on the other side. Does the world think less of Dr. John Brown that he wrote "Rab and His Friends," or "Spare Hours?" Or of Sir Henry Holland, the physician to Victoria, that he published that delightful book "Recollections of a Past Life," where such a wealth of observation, incident and experience is recorded as rarely distinguishes the life of any medical man? Or of the genial and humor loving Dr. Holmes for his brilliant sayings as the "Autocrat of the Breakfast Table," or the wierd and strange psychological story of "Elsie Venner?" And was Agassiz less supreme that he added to his knowledge of medicine, a knowledge minute and marvelous of all that wide and related kingdom of natural history until in the fullness and simplicity of a great soul he was greater than any prince or potentate in all the world?

It does not follow that every professional man should have a literary career, or take to literature either for fame or fortune. This supplemental work is good to sweeten life, to freshen it, and to give a better relish for hard routine work. As one gathers new elasticity both of body and mind by running off to the woods, or to the streams where the water falls are musical, and the leaning alders give out a faint perfume, and the water spirit sports in the ouzel and trout play and leap, and the breath of the south wind is as the breath of Heaven,—so one is refreshed by making brief excursions into the widening domain of literature. It is good to know the masterful thought of the world, even for one day. It is good to have the attrition of many minds to waken all the dormant intellectual forces. Whatever may be the profession, if one makes the circuit of it in a perfunctory way, there is always a tendency to contraction. Nothing is more pitiable than that one in a great and noble calling, should belittle it, or suffer it to belittle the man. Yet the observer cannot go amiss of such instances in the whole round of the learned professions. When there is a perfect content-

ment with small facts and precedents, then the mummyfying process begins. And this sterility is the more insufferable because all the vitalizing forces of the world have been touched by a quickening spirit, as if the invisible finger of God had been laid on the souls of men. The disease of vacuity is far more to be dreaded than the strain of overwork.

The best renewal of life does not come from a cessation of work, but rather from the facility with which one can shift the burden. The angel over the right shoulder never yet inspired one to do less than his best. It is the demon over the left that blinds to great opportunities and noble ideals. The ideal pattern of excellence is revealed in the mount as it was of old; and the divine injunction is ever in force to work up to that pattern. And working so, no man's life is a failure; for he triumphs as he lives and struggles from day to day, and the moral of his death is a triumph. I have seen a heroic surgeon, with one lung gone, and the other going, whose presence in the sick chamber was as the brightness of the morning, even when the sharpness of death was upon him. He visited patients one day, and lay down and died on the next day. As sure as heroism and noble endeavor are immortal, this man's life was a triumph, both in the race and at the goal. As long as this institution exists will the example of high endeavor and accomplished work of the eminent man whose name it bears, quicken, encourage and inspire young men to work up to the same ideals with the certainty of permanent and honorable success.

I knew an eminent artist who painted a picture in and out twenty times before he had realized his own ideal. But when he could look upon it as a poem on canvas, a bit of nature transfigured and glorified by the master's touch, then he had his crowning reward; for one hour of honorable triumph balances all the long hours of defeat. But the crowning satisfaction only comes if the result be worthy of the effort. A distinguished Oriental scholar spent a year in trying to find out why a vowel point was in a certain place in the Hebrew text. At the end of a year of patient investigation he found that it was no vowel point at all—only an accidental fly-speck. The talent for patient research—for the long pull at the very roots of things—is so much capital at the outset of professional life. And as for genius—there may be more of it in the penitentiaries than in any other institutions of the land.

yond the stars, saying "write good words, that shall be like apples of gold set in pictures of silver,"—for these there is room—and there always will be room as long as the strong trample on the weak, and there is a bar of public opinion more potent than any other tribunal on the earth. When a young man works up to that ideal he has found a profession. Below that he might better be pulling stumps and raising cabbages for the market.

Now, for men who take the first rank, or even the second in the professions, there may and ought to be large pecuniary rewards. But these emoluments are never, legitimately, more than incidents of the calling. If money is set up as the highest ideal and aim, the chances are that the individual will be a mere grubber—one of hopeless professional mediocrity. There is no moral quality in money, no grand inspiration, and no uplifting power. A good environment is not always a fortunate circumstance. Some men need external pressure to put them down on the utmost possibilities. I never knew but one young lawyer who, upon falling heir to a large fortune, diligently followed his profession for the love of it—and he was so good that he died young. Without a great and engrossing love—a consuming zeal that burns into the very soul, no man ever made the highest attainments in a chosen profession. He will not set before him the highest ideals, but will be content with a smooth round life, immense capacity for creature comforts, and a limited capacity for the stress and strain of great effort.

I know a painter who made a national reputation. His pictures were eagerly sought. They commanded the highest prices. In an evil hour, his lower ambition was stirred to build a castle, such as he had seen in Europe. He built it, and it brought him to the verge of bankruptcy. Thenceforth he painted not for fame but for money. The nobler inspiration was gone. He no more invested his work with the subtle quality and indefinable grace of high spiritual conceptions. There was no longer a pattern in the mount for him. So much canvas covered with paint for so much money. The divine spirit went out of the man, and another entered in. Then came an era of hack work. Rich men who had paid high prices for his pictures, sent them to the auction house to be sold for any part of the original cost. The man had gone down on his knees to worship the golden calf. Sooner or later one shall come to be like his ideal—shall in some sense be translated into its image. No painter ever went down

on his knees to any golden image who did not long afterward show the knee marks of an abject prostration. Agassiz gave the key note of his ideal when he said that he could not afford to waste his time in earning money; and because he could not, it came to him for the asking. Since the world began no true poet has written one immortal line for money. Milton never thought of the beggarly five pounds he was to receive for the grandest epic of all the ages.

When Tennyson undertook to write at so much a line, he dropped down from the height of inspiration and wrote such jingling lines that critics said, "What ails the poet laureate that there should be such rhymes as poets never said or sung?" Nor has any great thing ever been done in literature on the low level of a money inspiration. If one shall sit down to write a book with the uppermost thought that it will bring so much coin, he will write nothing that ought to live. No divine spirit will descend upon him. There will be the *vox et præterea nihil*, a letting loose of a torrent of words, without one great and fertilizing thought. And because the making of books is so largely the outcome of mere commercial tricks and trade, the world is overloaded with trash fit only for some great and devouring conflagration. Given, a money haunted scribe, a conscienceless publisher, and a demoniac spirit in the very wheels of the press, the slums of the world will be raked over for incident and story, in which there is not one thought nor one motive for high endeavor and nobility of life.

The masters of sculpture and painting, of poetry and fiction, of music and oratory, and of the divine arts of teaching and healing have not wrought so. Something had come to them, some gift of touch, some illumination, some grace of inspiration, some perception of grand ideals towards which they wrought with an all sustaining hope of final fruition. Nothing has yet been done so well in this world that it may not be better done on some more perfect day. There is still the early dawn and the childhood of the world. The unknown of to-day melts into the light of the known on the morrow. For every new man who is called to the dignities and duties of professional life, if he will but strive lawfully, will have none other than the highest ideal, there is both room and the welcome of an open-handed world to all its honorable struggles and to all its crowning rewards.

VALEDICTORY ADDRESS

DELIVERED AT

THE GRADUATING EXERCISES

OF THE

OOPER MEDICAL COLLEGE

SAN FRANCISCO, CAL.

NOVEMBER 17, 1887.

BY

CHARLES H. STEELE, A. M., M. D.

Professor of Materia Medica and Therapeutics

PUBLISHED BY REQUEST OF THE GRADUATING CLASS

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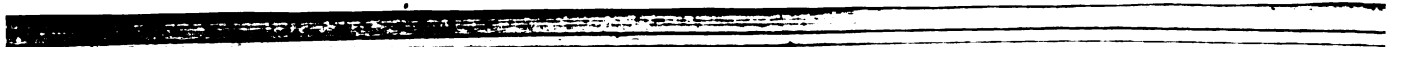
Members of the Graduating Class:

Probably one of the most important events in the life of a youthful adult is that of his marriage. Imagination may picture a scene where the soft variegated light, stealing through the stained windows of some Gothic cathedral, falls upon an elegantly attired and joyous assemblage, where the grand notes of a Mendelssohnian wedding march have just ceased their reverberations through the fretted walls, and where, in response to the deep impressive voice of the clergyman, the young man earnestly promises to forever love, cherish and protect the fair young bride, whom from all the world he has chosen, for better or for worse, as his partner through life. Such a scene will hallowedly linger in the memory of a man regardless of the divorce courts and his many subsequent marriages.

In the life of a professional gentleman there is an equally important and similar event. It occurs when with harmonious strains he is ushered into the presence of a happy and sympathetic throng, and, with all due solemnity, has conferred upon him a degree and is wedded to a profession, which he has chosen as his life's work.

No bride could be more proudly won or, for the time, more fondly cherished. Treat her lovingly and she will return affection; treat her with coolness and negligence, and a divorce is not only a probability but a necessity.

On such an occasion as this, it has been the custom of our



well known fact, that our graduates successfully compete with those of every medical institution in the world.

It seems rather inappropriate that all this time and amount of study should be devoted to fitting you to treat the sick, while the minutes alloted to this *particular* chair should be intended to prepare you for treating the *well*, which, by the way, is the most profitable part of the medical profession. This art, however, is to be gained principally by experience. In your first professional venture you will be somewhat ignored by the public because of your inexperience. This inexperience generally refers to your lack of the habit of positiveness and of the appearance of hidden depths of wisdom. The uneducated charlatan, with his acute knowledge of human character and acquired ability of playing upon human faculties and sympathies, is never accused of inexperience. I shall, therefore, briefly endeavor to impart a trifle of this information, and speak of the subject which first suggests itself—the relation which the public and medical profession have to one another.

What benefits is the profession of medicine to expect from the public? With all due respect to human individuals, we find that the general public usually has very little respect for itself, except where immediate tangible profit is at stake. The granting of the Magna Charta, the successful struggle of Switzerland for liberty, the indomitable energy which, amid all imaginable privations and hardships, secured an American Independence, are epochs in history which contrast strangely with the ordinary course of the world's events. The human mind possesses much of the brutal instinct mingled with intelligent faculties. While people have stubbornly maintained a principle, however wild and unreasonable, they have shown a supreme disregard for human life. Even mistaken religious beliefs have destroyed homes, devastated cities, and overthrown governments. Noble men have rotted in noisome dungeons and been burned at the stake. Innocent children and loving mothers have been buried alive, or bound on the seashore to be strangled by the incoming tide. Brutal soldiers have cut out quivering hearts and devoured the reeking mass before the glazed staring eyes of their victims, and believed that they were obeying divine commands. Again, Europe has been deluged in blood to gratify the ambition of a Cæsar and a Napoleon. Thousands of years have been required to develop the recognition of the necessity as well as the

means of checking pestilences, which were more direful in their devastations than the bloody swords of Alaric and Genseric of old. One of the most filthy of cities at the present time is Mecca. To this town of 40,000 inhabitants from 100,000 to 1,000,000 pilgrims annually congregate during the hottest season of the tropical year. All the sewage flows through the streets in open gutters, and the dark, slimy, offensive mass infects the air, water and the rotting food. Such a sight might offend the delicate tastes of the inhabitants of our own city. Hence in San Francisco long reservoirs are safely buried beneath the soil, so constructed that there shall be no outflow to the yearly accumulations of the most abominable of decomposing filth. Thus there is no danger of offending the sight, but that the inhabitants of our heaven blessed city may esthetically enjoy the full benefits of physical degeneration, the interiors of each house, even the sleeping apartments, in which are consigned to sweet unconscious sleep the loved children and innocent babes, are securely connected by metallic pipes with these gigantic culture tubes of the germs of scarlet fever, erysipelas, typhoid and diphtheria. The angel that guards the infant's couch is the dark angel of death. Pestilence keeps nightly vigil in the bed chamber, but he is welcome so long as he is not disgusting to sight or smell. No city could possibly be better provided by nature with facilities for perfect sewerage or even suitable drainage, but our inhabitants prefer to hoard up their gold and slaughter the innocent. We tremble because our harbor lies defenselessly at the mercy of some possible foreign foe, but in wilful ignorance, nourish at our hearthstones a noiseless enemy, whose fatality is a thousand-fold more direful. Cholera and smallpox from Asia, yellow fever from Mexico and Central America, the loathsome plagues from the Islands of the Pacific find a natural access to this principal seaport of our Western Continent, and yet we feel secure in our poorly paid quarantine officer, who, without an official station, flits about our extensive bay in a diminutive steam launch. Our Health Officer, whose salary is equal to that of the Sheriff's book-keeper, is expected to discover and isolate contagious diseases, but to improve the sanitary condition of the city he must beg the necessary permission from the Honorable Board of Supervisors, and often beg in vain. Our six Health Inspectors have received no medical education, and their knowledge of what may be necessary to

induce health is limited accordingly. Our cemeteries occupy the slopes surrounding the city, and the dead are literally sleeping with the living. We breathe the "pure" ocean air after it has been filtered through grave stones.

With peculiar inconsistency, State and municipal laws, the intelligent press and public sympathy are up in arms against the vice of opium-smoking, perhaps because it is a vice imported from barbarism; while the law protects, public sentiment condones, and individual citizens petition for the establishment of a thousand-fold more prevalent, disgusting and pernicious vice—the alcohol habit. Even the saloon-keeper, who lawfully poisons the public with the vilest of alcoholic compounds, is allowed to frame our laws and to receive political homage. We are obliged to *imagine* the opium-*fiend* in his *den*, while by walking around the corner we can *see* the gilded saloon and the *gentleman* who drinks.

Opium smoking produces functional derangements from which recovery is always possible. It has never directly caused a death or sent a single patient to our Insane Asylum; it is never offered as an excuse for crime, nor is it obnoxious in the public streets. In fact, we, who are sitting here, would never know of its existence were it not for the occasional expressions of indignation on the part of the public press. On the other hand, alcohol induces organic diseases, from which recovery is impossible. In this city in 1886, it was the direct cause of sixty deaths and sent forty-nine patients to the Stockton Insane Asylum. It is truthfully offered in the courts as an extenuation of all the crimes recognized in our Penal Code. It hourly staggers along our public thoroughfares endangering the safety of the unprotected, and we obtain much of our food from the corner groceries, which are too often the ante-rooms of drinking and gambling dens.

Our Legislature has in response to medical entreaties, grudgingly enacted efficient laws to protect the ignorant public from the most shameful and death dealing quackery, but without financial aid to render the laws operative. Thousands of dollars are yearly expended by public and private contributions to educate the youth in impractical studies—and, I might add, to dwarf their frames by forced mental labor in overcrowded rooms and vitiated atmosphere,—but not one penny to teach the laws of health or to investigate the great problems which lie at

the very foundation of all human usefulness and happiness. In your daily professional walks you will be startled and disgusted at the criminal ignorance of parents in the rearing of those whom the Almighty has intrusted to their keeping. The advice which you proffer is often met with disbelief and contempt. The affected member of some loving household is ruthlessly consigned to the grave by ignorant negligence, notwithstanding your best professional endeavors to ward off the hand of death. Even our daily papers, with all their superior enterprise and acumen, direct their readers to catch the floating bacteria of diphtheria in a goblet, and watch them dissolve in the fumes of burning turpentine and tar.

The older a people, the more does it learn from experience. Our general government has reached these years of discretion, and now recognizes the importance of medical study in maintaining further growth and progress. Medical commissioners have been appointed and liberally paid to investigate the causes of disease and the value of various agents in destroying these causes. Similar commissions have been appointed in the Hawaiian Islands, by the Government of Japan, and by every nation in Europe, and notably in Prussia, where from the present year all hygienic affairs of the Government are regulated by a congress of physicians. In Europe and in some of the Eastern States medical colleges have been endowed by private contributions, or by the State, so that professional teachers are thus enabled to devote their best efforts to devising means to improve the physical condition of the people. But in California we prefer to study the stars and endow large classical universities, and accept as pure charity from the medical profession whatever investigations are required for improving and preserving the commonwealth.

However, it is to be hoped that California, with all her resources, wealth of intellect and history of marvelous progress, will at some time learn the lesson that the great triumphs of medical art lie principally in the domain of *preventing* disease. But this amount of public wisdom must, like all that is great and good in human history, be slow in its evolution. California, though nurtured and taught by the experience and example of the highest intelligence of civilization, is still young, and like every child must be expected to learn how to protect its own physical health only when she has approached adult age.

Perhaps in no part of the world, excepting in Africa and Asia, will you find among the better classes such a worship of quackery as in this State. The liberally educated gentleman, one who has graduated with highest honors from our best universities, rather prides himself upon his ignorance of his own anatomy and physiology. Of all branches of knowledge there is not one regarding which the public is less informed than that which pertains to medicine. The knave would be a fool if he did not play upon this ignorance and foster delusions to his own pecuniary advantage. The blame then rests with the public even more than with the quack.

If the people were acquainted with the marvelous construction of their own physical machinery—with the delicate and evenly adjusted springs of life, they would fully appreciate the absurdity and danger of attempting to regulate its movements. A sane man, familiar with the minute structure and functions of his digestive organs, with the wonderful properties of the blood and the delicately balanced arrangement of his nervous organization, would be as little disposed to experiment upon them with any of the advertised patent medicines, or of intrusting their care to a quack, as would a chemist to indiscriminately blend the various elements in his laboratory, or as would a railroad corporation to trust its valuable rolling stock and the lives of its patrons to the care of a self-styled engineer who knew nothing about the machinery of a locomotive. It is useless to constantly parade these facts before the public, who imagine that only envy or malice excite their utterance. Nothing has been gained by repeating that the great majority of patent medicines owe all their virtues to the vilest of alcoholic compounds or to opium, and that free indulgence in such beverages is liable to induce those terrible curses, the alcohol and opium-habits.

It avails little to cite examples of lasting injury to health and of untimely death occasioned by these vile nostrums. Children will play with fire regardless of frequent warnings and admonitions. The public is indifferent to the fact that not one new idea in chemistry, anatomy, physiology, pathology or therapeutics has ever originated in the brain of *any* medical charlatan. The people heed not the warning that quackery desires its gold, not its health,—that, like all merchandise, patent medicines are freely advertised and introduced by smooth-tongued agents only for the purpose of reaping pecuniary rewards, and that not one

suggestion is to be offered that might prevent disease. The people choose to be imposed upon, and the quack rides in his chariot and lives in his palace. All that can be hoped for is that the people may be so educated in the fundamental principles of physiology and medicine, that they will be able to discern the fraud for themselves.

They will also learn that their munificent support of quackery is not so great a detriment to physicians as to themselves, for by impeding the wheels of scientific progress, even in this slight degree, they inflict a proportionate injury upon mankind, for whose use medical science is intended.

Let it be granted, for the sake of argument, that the positive protestations of the quack are true, that only *he* has the power to permanently cure diseases which have baffled the skill of the best educated doctors of medicine. Does he not stand as a self-accused criminal of the blackest dye? Instead of slaughtering at retail, he does it by wholesale. There would be no hesitation in characterizing a man as a murderer who, boasting of his ability to save, still stands by, with folded arms, while his brother is drowning. He who professes to cure all diseases, and save thousands of scientifically butchered human beings, and yet refrains from publishing his means for so doing, but selfishly prefers to limit his life-preserving secret to the town, city, State, or even country in which he resides, or wherever he may choose to send his advertisements, has recorded against his name a murder for every minute of his life. And those who, by their patronage and encouragment, uphold him in his evil course, are accessories to his crimes, and, at the final reckoning, will stand accused, with him, before the millions of injured witnesses.

The public must also be taught that one of the most vital interests of the day is the devising of means to protect itself from disease. The hygienic laws of our city are enacted by a Board of Supervisors, who could never be accused of possessing medical knowledge. The recommendations of our Health Officer are criticised and often ignored.

Although sanitary laws are now comparatively well appreciated, and efforts are elsewhere made to establish their enforcement, yet, in our State and city, there is sufficient evidence to convince even the casual observer that similar efforts are but the futile attacks of a puny infant against a giant. The prophylactic sun, which is now shining so brightly in other portions of

the civilized world, appears to us a remote glimmering star. We discover no special ignorance in the public mind regarding other branches of civic economy. For the preservation of liberty and property, for the education of the young, for the protection from fires, and for the suppression of crime, vast sums of money are yearly expended. Public sympathies and public charities are easily elicited for the aid of outcast children, for the care of the sick, for improving the condition of the general poor, and even for preventing cruelty to animals; but how much public money or enthusiasm is expended in attempting to educate the masses in the details of hygienic laws, or to verify or discover the principles which poison the springs of public health? Even the plainest and best established facts relating to the prevention of disease are surprisingly ignored. At the present time strenuous efforts are made to vaccinate every individual in our population, while, with our characteristic hospitality, we welcome smallpox to our shores and offer him the freedom of our city.

In order to present these facts more appreciably before your notice, it is well to refer to the mortality statistics of our city. If we consider only the deaths due to preventable diseases—that is, deaths, as, for example, from alcoholism, croup, diphtheria, intestinal disorders, malarial and typhoid fevers, erysipelas, infantile convulsions, gastritis, bronchitis, pneumonia, consumption and starvation—which, with a better understanding of the laws of health relating to food, clothing, atmosphere, cleanliness, exposure, and the like, might have been warded off or prevented, we will find that, in 1886, 2,513 useful and remunerative lives were lost.

Now, this does not, by any means, represent the number of cases of sickness from these diseases. If we place the mortality at a liberal average of eight per cent, we will find that, during this time, 31,412 people were stricken down by these diseases. Again, if we take twenty days as a fair average of the duration of each case of sickness, and suppose that the services of these people were worth to the community two dollars a day, we find that the city lost during one year the value of about $1,300,000 through its faulty sanitary regulations and the ignorance of its inhabitants — not an extravagant estimate when we also consider the time occupied in nursing the sick and the 2,513 lives, which, with all their possible years of labor, were lost to the community forever. If one-half of the preventable diseases

could be prevented, the expenditure of $1,000,000 yearly in educating the people how to live, in constructing perfect sewerage, cleansing the streets, enacting and enforcing laws against defective tenement houses, scientifically inspecting all kinds of food, prohibiting the sale of adulterated liquors, and the like, it would be the best financial investment this community could possibly make. And, furthermore, when we take into consideration that sanitary science and the knowledge of the causes of disease are still in their infancy, and that all that this city knows of such matters is derived absolutely and entirely from sources to which it has paid nothing, and principally from other States and governments, who have paid liberally for their information, it would be a little more in accordance the world-wide reputation of our city for its sympathy and wholesouled generosity, to expend a little money in scientifically investigating the subject, and returning even a trifling amount of the life-saving information, which it has so liberally borrowed from the world at large.

It has been asserted that zymotic or filth diseases are not more prevalent in San Francisco than in other cities. But, for example, let us compare the death rate of that dread disease, diphtheria, with that of several cities taken at random from the records of 1886:

In Buffalo 1 out of every 2,000 of the population died from this disease.

" Brooklyn	1 in 1,725
" Cincinnati	1 " 1,666
" Hartford	1 " 2,765
" Baltimore	1 " 2,173
" Providence	1 " 1,205
" Boston	1 " 1,194
" Burlington	1 " 1,227
" Galveston	1 " 5,000
" Liverpool	1 " 4,800

While in the perpetual summer and ocean atmosphere of San Francisco, where, during the past twelve months, there has been no special epidemic, one out of every 911 of the population died from diphtheria.

Although the subject of how to educate the people, and of the character and the relations of the information which is to be acquired by scientific research, is an extremely tempting one,

yet it would be out of place on such an occasion as this. This subject, you, my young friends, are already acquainted with, and it rests with you, not as caterers to the public's whims and tastes, as the public would have you believe, but as self-constituted and sadly abused guardians of the public health, to endeavor to constantly force upon the good sense of the community, and, without their aid or even their thanks, to manfully and generously labor to discover for yourselves and publish to the world.

We are now led to briefly inquire what the medical profession has done for the public. Without taking into consideration the petty annoyances of being expected to work twenty-four hours a day; to live without food; to devote all of your time to one particular patient; to ignore your office hours and be abused because you do not respect them; to walk or ride blocks or miles to a house which you had passed but a few minutes before; to visit five or six widely separated places at night because each patient deferred sending for you until he thought you might be at leisure; to murder all the patients that chance to die under your professional care; to pity a poor frightened mother who neglects your directions and finally accept the blame for the delayed recovery; to be able to eradicate the poison of every disease so that there shall not be the possibility of a relapse; to leave your refreshing bed at night and ride or tramp through miles of mud and rain, and receive no payment for your services; to pay your landlord, grocer, butcher and tailor cash on delivery, but refrain from sending them your bills until the end of six or twelve months, and then, after five or six more months of delay, be prepared to make a reasonable deduction; to send no bills at all to some of your patients; to clothe your face with a perpetual summer of smiles regardless of the storms within—I say, without considering these and a thousand other petty annoyances which those who are the servants of the public are always expected to bear, there is no other profession, class, or trade that has done more for the public than that of medicine. Whatever progress medicine has achieved, has been so wholly through the researches and reflections of the medical student and, until very lately, solely at his expense. Physicians support large publishing houses, and, at considerable expenditure of money and time, encourage a vast amount of periodical literature in order that the whole world may, without delay, enjoy

the benefits of medical progress. Monthly and yearly conventions are maintained for the public good, but without any public expense, every item of money, time and talent, being freely offered by the medical profession. And that this profession, with all its cares, has not proven derelict in its duties to humanity, it may be stated that no science has achieved such advancement within the past sixty years as that of medicine. Wonderful progress has not only been made in physiology, diagnosis, surgery, treatment of special organs, minute pathology and in the physiological study of the action of medicine, but also in the very foundation and pinnacle of medicine, the theories as to the cause of disease. When a mechanic invents some machine for decreasing manual labor or cheapening the price of any article, his praises are sung throughout the land, the Government awards him a protective patent and he is borne along upon the wings of financial prosperity. When a true physician discovers an agent, or invents an instrument which will mitigate suffering and save human life, his name is known only to his confréres, and he would scorn as an insult to his exalted and noble calling any rewards which might result from exclusive rights. The physician desires to promote the physical health of the *world*—his light is raised high in the dark ocean of disease so that *any* tempest tossed barque may surely find the haven of health, he strives to follow the example of Him who said "Come unto me *all* ye that labor and are heavy laden and I will give you rest." His reward is not in perishable gold, but in a monument of fame, which in the hearts of his brethern will outlast the pyramids, and in a self-laudatory conscience, which only he who has saved a human life can appreciate.

Furthermore, there is no profession or class that can display more services to charity than that which is given by the medical profession annually without prospect of any reward. The public holds in contempt any physician who turns the poor from his door when they ask his medical aid and affirm their inability to offer any fee. There is not an honorable physician in this or any city who does not treat the poor gratuitously and rejoice in doing it. There are 460 legal practitioners in this city, each averaging about 100 dollars worth of gratuitous services yearly (not including patients who *refuse* to pay), and all making a total of over 46,000 dollars worth of services to the sick poor of our city. But a large amount is also accomplished in the way

of public charity. There are yearly treated in the receiving hospital over 3,000 patients by a physician whose compensation is equal to that of an engineer of a fire engine. There are 3,400 patients annually treated in the City and County Hospital, at an expense to the city of between 28 and $29,000, of which amount $1,800 is expended in paying four physicians and surgeons who are expected to direct the treatment of the principal number of the sick. The salary of these professional gentlemen is only nominal and equals that of the Secretary of the Free Library. There are also four resident physicians who receive board and lodging as their only compensation. True, they gain experience, but it is the public which receives the benefit of their experience.

Without taking into consideration the numerous private hospitals and free dispensaries, we will consider the amount of charitable work done in this institution alone. Here during ten hours in the week the poor are invited to come for medical treatment, for which the college does not receive one farthing in payment. During last year over 2,000 patients availed themselves of the privilege, who, if dependent upon the city for aid, would probably have cost the corporation from 10 to $20,000.

Besides directly administering to the wants of suffering humanity, this institution is liberal in other ways. The building itself is an ornamental and substantial monument to the generosity of a single member of the profession. The education here provided, which, through its honored graduates has and will be of incalculable benefit to the public, is furnished by the teachers at an expenditure of time and midnight study, without any compensation to them beyond the increased ability it affords in administering to the wants of suffering humanity, and the pleasure in mental work which only a student can appreciate. It is asserted that it is not difficult for a physician to prepare a medical lecture, but it is a recognized fact that only strong and valiant knights win renown to their escutcheon. The public lectures which are intended to accomplish the greatest good in the prevention of disease by affording plain and practical information to the public upon the mysteries of medicine, are given without the slightest hope of reward except that which is afforded by the consciousness of doing good. And yet we will not say that this institution is doing more than others of its kind in its efforts to better the sad lot of man. The debt of the public to

the medical profession is a large one, and, like many doctor's bills, never will be paid. "Do our judges ever sit to administer justice, or do our lawyers plead the cause of the poor without their proper compensation?" Do we expect our nation's defenders to be satisfied with the fame and glory which history awards to them? Are we at all surprised that our Legislators require something more than patriotism as a reward for their services? Then why should members of our profession, in view of all their charity, submit to the frequent accusations of hard-heartedness, sordidness and inhumanity, "when they seek wherewithal to obtain some of the natural rest and comfort, which all value so highly, but which the physician's very duties, in a great degree, deny to him."

Members of the graduating class, do not allow these expressions to cast a shadow over your bright prospects. If all your wishes were gratified, you would have no desires to strive for, and the pleasure of living would end. It has been stated that only the financially independent should ever undertake the practice of medicine, but too many of us are like the brutes, who require the whip to hasten their progress. Necessity is generally the best stimulus to exertion. Always remember that an approving conscience will afford you more true happiness than all else in this world. The warm shake of the hand and the expressions of heartfelt gratitude of one whom you have rescued from the on-sweeping current of death, will occasion you more true enjoyment than all the gold he might offer, although it will not provide your family with bread.

To succeed in the life which you have chosen, it will be necessary to season your professional education with a large amount of common sense, else your literary food will remain undigested and afford you no nourishment. You should study, not so much to acquire the thoughts of others as to acquire the power of thinking for yourself. Memory must not be strengthened at the expense of judgment. Be educated not only in your profession, but in other branches of learning. Extensive reading, like traveling, broadens the intellect and develops liberal views of the world and its affairs, and your patrons will measure your acquirements by the standard of their own intelligence. Also, while it is not advisable for *every* physician to endeavor to force himself into unprofessional notoriety, yet, by carefully fortified opinions upon the various topics which are of interest to the

general public, he should strive to place himself among the educated leaders in his own community. Stand well with your profession. "The man who does not earn the good opinion of his own order does not enjoy a long success."

While endeavoring to restore your patients to health, be careful not to make an invalid of yourself. A weak body and a strong mind are not generally compatible, and you owe it as a duty to your patrons, as well as to the family that may be dependent upon you, to demand the necessary regularity in meals and hours of rest. People are prone to forget their gratitude when you have rendered yourself unable to be of any further service to them.

You should, unlike the majority of professional men, endeavor to cultivate business qualifications. While you should donate your services, within reasonable bounds, to the poor, be careful not to be equally liberal to those who are able to pay. Remember that your success as physicians will not be so much judged of by your marvelous cures as by the odor of financial prosperity which your person exhales. Attend strictly to your profession. When you are most needed by your patrons you should not be at the stock board or at some distant billiard table. While recreation is imperative, it should not be carried to excess. The doctor who, every few weeks, is to be sought for in the mountains, gunning, or riding some hobby in the country, will not be the one who is found at the bedside of the best patients. Sick people are, as a rule, very susceptible to odors. Hence spare your patients from the fumes of tobacco or whisky. Thoughtful people are rather loth to intrust their lives to a physician who is willing to drown his intellectual faculties in alcoholic potations. They prefer to be attended by human beings, not by brutes.

A physician should always possess the character and bearing of a gentleman. He should be sedate, not solemn; pleasant, but not clownish. A smiling face banishes fear and imparts confidence. Command the respect of your patients by your firmness and uniform truthfulness, but at the same time cause them to look upon you as a friend. It is better to acknowledge ignorance than to boast of knowledge when you have it not. Many of your patrons are good judges of human character, and your face will often betray your tongue. Affirm only what you believe, and promise only what you know you can fulfill. If your

prognosis is bad, always state the fact to a relative or friend of the patient, but to the invalid be hopeful. Without hope the struggle seems useless, and the battle of life is lost. An unguarded prognosis, expressed in words or acts, has hurried many a patient to his untimely grave.

Disciples of Hippocrates should pay their devotions to Harpocrates, the ancient God of Silence. Nothing more dastardly could be conceived than the act of a physician who feeds the tongue of gossip or excites the laugh of ribaldry with the words which have escaped from his patients in their hour of anguish, or the confidence which his profession has induced. Be assured that when a physician discloses the secrets of the sick room, he will never have occasion to prescribe for his entertained listeners or their intimate friends. The laws of France impose heavy punishment upon the physician who betrays the professional confidence of his patient.

And, finally, bear in mind that "to whom much is given, of him shall much be required." That your medical instruction has been in advance of the times is the very reason why the community will look to you for more than the usual practical deductions. Your medical education has been *commenced*, and it will be completed only at death. The foundation has been laid for a palace; beware that you do not erect a hovel upon it. Be earnest and enthusiastic. "The longer I live," said Sir Fowell Buxton, "the more I am certain that the great difference between men, between the feeble and the powerful, the great and the insignificant, is energy, invincible determination, a purpose once fixed upon, and then victory or death." Much has yet to be learned, and he who adds one thought to the knowledge of the world, which might be utilized in saving human life, wears a crown which royalty might envy. The names and deeds of kings have perished with their bodies, but a benefactor of the human race will live forever. Let your aims be high and your endeavors untiring. Let no failures foil, no disasters daunt. Triumph is ever born of courage.

In adopting these few precepts, you may, possibly, not gain wealth or transient fame, but you will gain the esteem of your fellows, the student's capacity for enjoyment, the supreme satisfaction arising from the consciousness of benefiting humanity, and the rewards meted out to him who improves the talents intrusted to his care.

VALEDICTORY ADDRESS

DELIVERED AT

THE GRADUATING EXERCISES

—OF—

OOPER MEDICAL COLLEGE

SAN FRANCISCO, CAL.

November 13, 1889

—BY—

CHAS. N. ELLINWOOD, M. D.

Professor of Physiology.

Woodward & Co., Printers, 322 California Street.

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Professor of Physiology.

Fellow Students, Physicians and Friends:

The tree of knowledge, representing science, with its flowers and fruit, appears most attractive, most admirable when its lofty heights and wide spreading branches are seen to reach out to protect, to ennoble and to bless mankind.

There must be something of goodness and something of greatness in one who is attracted to and devotedly studies and cultivates that kind of knowledge which is required of the *medical art* to-day, and the occasion suggests as a fitting theme for these few parting words, a brief statement of what the study of medicine embraces, and the effect of such studies upon the intellect and character of the student.

The objective point in medical education is man.

A creature so complex, so wonderfully made; constituted of so many organs, of such diverse uses; made up of so many different forms of matter and endowed with such diverse attributes, manifesting so many kinds of force, that an intelligent approach to a comprehension of the subject is only attained by the aid of such knowledge as physics and chemistry give us of the properties of matter and the manifestation of force.

Out of these two indestructible factors, matter and force, under the immutable laws divinely planned in the origin of creation, grow all the wonderful creatures in nature, from the simplest plant to the most complex animal.

The botanist teaches us the primary lesson of life in the plant; what a living cell is, and how a collection of vegetable cells in the plant has the power of bringing together the simple forms of matter from the earth, air and water, the chemical elements, carbon, hydrogen, oxygen and nitrogen, and combining them together with a latent force derived from the sun into more complex forms of matter, the granule of starch, the grain of sugar, the globule of fat and the particle of albumen.

In this process of building up inorganic matter into organic combinations, it is found that the resulting substances have acquired a force or a latent energy from the vital operations of the plant cell, which the lifeless matter of the earth, air and water did not possess.

In the plant life we see the processes of nutrition going on; we learn how such organisms are fed; how they breathe; how they are warmed, for plants have a vital heat as well as animals; how their sap or nutrient fluid is circulated and distributed to their most distant tendrils.

As a result of plant life we see the world beautiful with verdure, with flowers, fruits and forests; but the great purpose of the vegetable world would seem to be to combine and elaborate the necessary pabulum for the support and maintenance of the animal world, and that is starch, sugar, fat and albumen, the essential substances for all animal life.

The combination of matter and force produced by the vegetable cell furnishes the food by which the animal cell is enabled to grow into the complex structures of the animal body, and manifest the varied functions of animal life; and the higher in the scale of animal life the creature is the more numerous and intricate the combinations which matter undergoes in building up the structures of the body and operating its various parts, but in all forms of animal life, from its lowest to its highest expression; from the humble mass of protoplasm, the familiar jelly-fish you often see strewn along our beach at the cliff, to the most exalted of animal creatures, there is the same universal necessity for organic matter which must come directly or indirectly from the vegetable kingdom.

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If we follow this nutrient matter on through its many transformations in the animal body, it is found ultimately to undergo oxidation which destroys its organization and reduces it again to its simple inorganic forms, just such forms as the plant took from the soil of the earth, and in this process of oxidation the force or latent energy imparted to it by the plant, is liberated or transferred to the animal structures as an active or kinetic force which is manifested in man as heat, muscular movement, and nerve force, by which all the phenomena of life are explained.

Or in other words, the granule of starch, the grain of sugar, the globule of fat and the particle of albumen, taking origin in, and evolved from the plant, when transferred to the animal, and there serving the vital uses of the economy are decomposed by oxygen into carbon, hydrogen, nitrogen, and in such chemical elements, returned to the earth which gave it.

And in all these changes which matter undergoes in being built into the body of a plant, a blade of grass, a succulent vegetable or a luscious fruit, and yet more highly organized in the higher vitalized animal body, and there again oxydized and decomposed, there is not one atom of matter lost nor created; in all the mysterious evolutions of plants and animals only forms are created and destroyed. And force, that other factor in the universe, is alike indestructible with matter, its varied mutations being only different modes of manifestation, a ray of sunlight to-day, the motor force of a locomotive to morrow, and again the nerve force working in the brain of a political economist evolving arguments for protection or free trade; but no matter to what temporary use it may be put; in whatever trivial and transitory relations we may discover it; or in whatever exalted and abstruse associations, yet the established fact remains, and the law of the conservation of energy teaches that it lives on and on forever, throughout the infinitude of time.

Thus man is studied in his relations to the earth of inorganic matter, in his relations to the vegetable kindgdom, and in his intimate relations to the rest of the animal world. He is studied as a growing plant, starting with the parent cell or the primordial germ, which by a process of nutrition or the assimilation of inanimate matter grows into the mature and perfected organism capable of perpetuating its species.

Man is viewed as a chemical laboratory where the most sub-

tle combinations and decompositions are constantly going on. He is studied as a machine where the most intricate mechanisms are at work, all in such harmony and so co-ordinated as to express the perfection of beauty in outline and grace in movement.

He is studied as an impaired laboratory and as a machine gone wrong, out of harmony and doing imperfect work; impaired by insalubrity of climate and unhealthful vocations; by vicious habits and hereditary diseases; by ignorance, and by physical and moral degeneration.

And finally man is studied in his progressive development of a mental and moral nature.

As an intellectual, responsible being endowed with such attributes as place him above and beyond any comparative study with other created forms, not so endowed. We see in the innocent irresponsible new-born babe an individual of the human species without an intellectual development, incapable of manifesting only those instincts common to the animal creation, yet the chemist, and the anatomist tell us that the organization and structure are complete even to the convolutions of the brain; constituted in the same way and resembling its progenitor, anatomically and physiologically.

If, now, we follow and observe the progressive development in the babe from infancy, through childhood to mature age, we see the growth or evolution of an intellectual force, thought, reason and judgment, wonderful endowments acquired by the individual during its mundane existence, and looking back through the history of the world of individuals who have lived before us, we find their being, their individuality perpetuated in their mental and moral nature; their poems sung; their lives of duty and holiness forever a living presence; inventions in mechanics, and their application in the control of steam and electricity; observations and calculations of the heavenly bodies as well as the microscopic observation and study of life in the cell and in the organism.

This intellectual and enduring part of man's nature which comes of a progressive evolution from infancy to age is also embraced in the study of man.

I have said so much to indicate something of the field of study required of the medical student, and to attract your attention to the natural laws operating in the harmonious universe of matter

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and force, as illustrated in the compensatory existence of the vegetable and animal kingdoms, the one organizing and building up matter with a latent force; the other disorganizing that matter and liberating or transforming its force into an active state and into higher modes of manifestation in the animal kingdom unknown to the vegetable creation, and culminating in man, the objective point of our science. Let us regard for a moment the effect of such studies upon the mind and character of the student.

The study in detail of the minute structure of organs and their relation to the entire individual and contemplating its relationship to the rest of the world exercises the memory, the reason and the judgment, enlarges the capacity for thought, disciplines the mind for concentration and those logical deductions so essential to the practitioner of medicine.

This training just in the formative epoch of the student's mental growth tends largely to influence his mind and character.

It widens the horizon of his existence and enlarges his appreciation of the world of animate nature, and exalts his regard for human life.

It makes him a diligent inquirer after truth : it naturally makes him an observer of all those physical and mental phenomena which affect the human family.

It is often and erroneously alleged, that a medical education makes materialists, unbelievers in the soul's immortality, atheists, and a careless disregard for human life and human sympathies.

Some minds there are so analytical in character, organized and educated in such ways, that the chemist's crucible, the microscope and other instruments of precision, invented to aid our senses, furnish the only evidences and determine the only conclusion of what is and what is not.

Other minds there are synthetical in character, so organized and endowed that by a skillful use and logical deductions from the findings of these same crucibles, microscopes and other perfected aids to own senses, they can combine and compare the observed facts of science, and seize hold of a tangible faith in the soul's immortality and a blissful outcome from this mundane existence.

The history of the medical profession handed down to us from age to age illustrates the beneficent influence of a medical education. It has always fought against ignorance and super-

stition, it continues to fight against filth and pestilence, against fœticide, and all wanton destruction of human life, foremost in teaching and putting in practice those measures of public health, sanitary resources to arrest the spread of contagion and to overcome by art the natural origin and diffusion of disease.

The mental training effected by a systematic study of medicine and the bedside experience with pain and distress begets a kindly and generous sympathy with human suffering and keenly awakens the tenderest chords of human nature.

There is much of true heroism in the medical profession which ought to be more frequently talked about than it is, and especially on such occasions as this. Look, for instance, at the army of hard workers throughout the world, regardless of self, regardless of creature comforts and all allurements to social and convivial pleasures, devoted solely to the search for and a knowledge of those causes which destroy human life, freely exposing themselves to dangers of infection by going into pestiferous swamps for yellow fever germs and cholera, delving in the noxious matter of sewers, minutely dissecting and microscopically searching the decomposing bodies of men and animals, all for the advancement of knowledge to protect and preserve our fellow men.

A recent incident is reported illustrating the influence of a medical education, in forming a heroic, humane and self-sacrificing character.

On a battlefield in India surrounded by the numerous slain are two British officers, mortally wounded, one a surgeon, the other an officer of the line. Both are represented as suffering great pain from their wonnds.

The surgeon unable to stand or walk, crawls to the side of his comrade, and while his own bleeding wounds are fast ebbing his life away, he administers a hypodermic injection to assuage the pain of a fellow-sufferer.

There is also an unobtrusive heroism in the medical profession, in the common every-day life of duty which calls the practitioner into dangers of many kinds: personal dangers to himself and great responsibility to others, which he must meet manfully, intelligently and skillfully, or fail in his calling.

In conclusion, you, who are now made members of the medical fraternity, are solemnly charged to diligently work for its advancement and usefulness. Our science has no finality, our art is never perfected and it is the duty of each one of you to

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continue your studies of man and disease, to keep pace with the rapid progress being made that you may know and utilize all new and useful discoveries for the good of those who entrust themselves to your care.

You are charged to practice and maintain the established code of ethics of the regular medical profession. Our code should receive your early attention and be your guide in establishing pleasant and lasting relations with your patients and fellow-practitioners.

The educated physician knows the limit of his resources in the cure of disease and a sense of modesty and honesty will not allow him to promise more than he can perform. The ignorant pretender and charlatan, without honesty, promises anything, even the impossible, if necessary, to secure his fee. You cannot enter the lists with such. It is a constant surprise that common human nature does not reason in distress, that people trust their health and lives to cunning knaves and catching advertisements. But it is hoped that the better diffusion of knowledge will so enlighten the world that rational medicine founded on science will command the confidence and patronage of all. The true physician soon learns that his standing in the community depends upon what he achieves, rather than on what he promises; depends upon his demeanor and conscientious regard for honor, purity of life and skill in his profession; depends upon a character for kindliness and charity and with these he comes to be the very welcome visitor to the sick and suffering and the cherished friend and adviser in many homes.

It is hoped by the Faculty of Cooper Medical College, that each and every one of you may attain that lofty eminence in the world's advancement which the educated and skillful physician should occupy.

Your opinions and advice will be frequently sought touching those important things on which the lifelong wellfare of the individual, the family, and even the community may depend.

Ever remember that your lives henceforth may be crowned with great achievements commanding the enduring gratitude of your fellow men.

A heritage, inferior to none, is within your reach. May you occupy it! And may the profession of Hippocrates in no way suffer at your hands, but rather may it be elevated, and handed down to your successors more perfect, more advanced and blessing more the human race.

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ADDRESSES

—TO—

THE GRADUATING CLASS

—OF—

)OPER MEDICAL COLLEGE

November 12, 1889.

BY

PROFESSOR S. O. L. POTTER, A.M., M.D.

AND

REV. JACOB VOORSANGER, D.D.

SAN FRANCISCO:
Woodward & Co., Pacific Medical Journal Print, 522 California Street.
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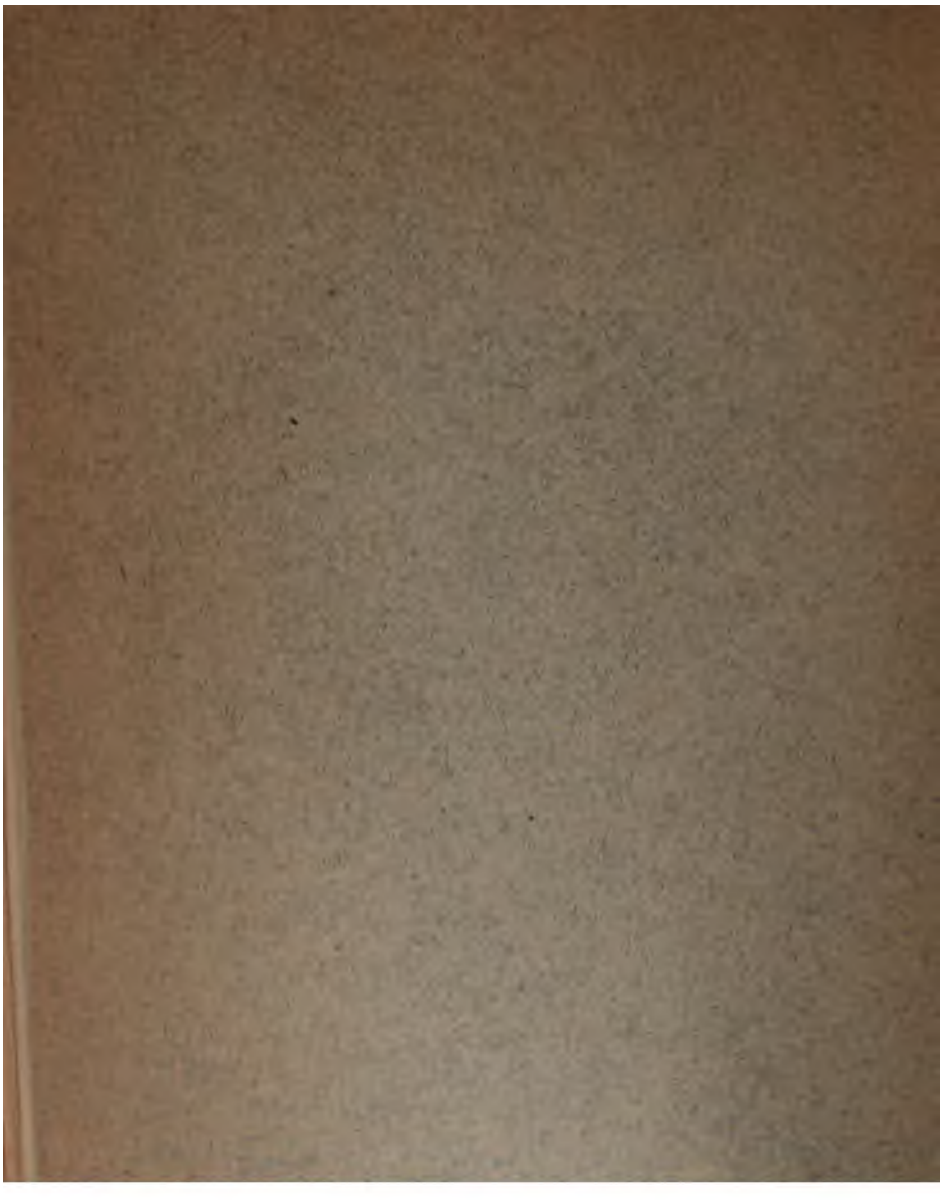

PROFESSIONAL SUCCESS.

A VALEDICTORY ADDRESS

DELIVERED TO THE GRADUATING CLASS AT COOPER MEDICAL COLLEGE, SAN FRANCISCO, NOVEMBER 12TH, 1889.

BY SAM'L O. L. POTTER, A. M., M. D.
Professor of Theory and Practice of Medicine.

Ladies and Gentlemen, Members of the Graduating Class of 1889:—It has fallen to my lot to take leave of you as students and to dismiss you from the halls of this College, with the *vale*, the farewell of its Faculty, upon this momentous occasion in your lives, when you enter upon the duties and privileges of our profession. I feel, however, in thus addressing you, that there is hardly the ordinary appropriateness in my being selected for this privilege, inasmuch as I may be said to be graduating myself to-night, having just completed my first course of three years as a teacher beneath this roof. When you entered these halls, three years ago, as students, I entered them with you, as your teacher. Together we have worked hard since then, in pursuing the course of your professional education—you in acquiring what I have been striving to impart, in conjunction with my more experienced and learned brethren of the Faculty. And now, at the end of our mutual study, I am impressed with the sense of my own graduation at this commencement, and with the hope that I may be found to be as worthy of my professorial chair, as you have been pronounced to be of your diplomas.

Happy, smiling faces, reflecting the warm hearts and kind wishes of your friends, greet you to-night on every side. All the members of this assembly seem to be overflowing with the most genuine good feeling for you, and to join with your individual near ones in making this an occasion of delightful remembrance. No cloud should dim your sky to-night, no shadow should fall upon your thoughts, to mar the pleasure you feel in entering upon what you are now resolving shall be successful and honorable careers. How shall I, as the representative of the Faculty for this hour, most fitly close this happy evening,

and yet leave upon your ears some words which may burn themselves into your memories, and help to raise your aspirations to the front rank, among the members of the noble profession to which you are wedded to-night? What shall be the most inspiring theme, on which to address you in this hour of your first victory, a theme which shall nerve you to the struggle for greater conquests in your future professional careers?

When the military student goes forth from the halls of his alma mater, to enter upon a life which is consecrated to the defense of his country; when the newly-ordained minister turns his back upon the theological seminary, to engage in the never-ending warfare with sin, and to hold up the banner of the cross before a sin-loving world; when the student of the law receives the certificate which authorizes him to plead the cause of a suitor before the tribunals of the State; and when the medical student is graduated, and endowed with all the rights, privileges and duties of one whose life is devoted to the relief of suffering humanity—what subject above all others can charm his ear, or entrance his mind, or rivet his attention, as will that of his probable personal share in what is called "success?" Success is the loadstone which now attracts your purposes, enchains your thoughts, your dreams; success is the ultimate center of your aims, the nucleolus of your aspirations, the goal of all your hopes; success in life, in love, in war with disease and death. Surely, no theme could be more appropriate for consideration at this "commencement" of your professional lives, than the measure of success which you may attain to, and the kind of success for which you should strive.

Success is a quantity of unknown limits, a conception of a condition which cannot be clearly defined. Every one has his own ideal of it, and this is so varying in quality and degree, that what would be success to one might be miserable failure to another, even in the same career. The poet writes:

> "It is success that colors all in life,
> Makes villains honest, and the rogue admired;
> Yea, even virtue, if opposed by strife,
> Yields to success, no matter how acquired."

But this conception of success, while unfortunately too common, is yet a low, a false one, referring only to the realization of the material things of life—place, power and riches. It does not embrace the spiritual part of existence, nor find place for

happiness, for that "peace which passeth understanding," the only true crown of a successful life. It is, however, too often the highest ideal of professional men, too many of whom believe that success means the possession of these things which all the world seems aiming for. With such a conception the success of the quack would be the highest in our professional view, for most of this class acquire wealth, many obtain political place, and nearly all are possessed of such power that they stand above the law, no jury being found to convict them, even when guilty of the highest crime known to the law, murder most foul, the murder of the helpless innocent.

While it is beyond belief that the aspirations of any before me to-night tend in the direction of the charlatan's success, it is by no means improbable that some of you may be tempted to win by essaying a compromise course of conduct, and thus may eventually find yourselves upon the list, already a very large one, of apparently reputable physicians, who are afflicted with a species of mental strabismus, keeping one eye upon the code of ethics, and the other directed crosswise at every known means of violating its spirit, while carefully keeping within the letter of its law. Guided by such an obliquity of moral vision, the course of these men is always inclined towards the open sea of quackery, rather than for the straight though narrow channel of ethical professional conduct. How to be advertised without open advertising is the sole guiding-star of life's voyage for them; and the only harbor they seek to anchor in is one the sands of which consist of dollars, forming silver shores washed up by the hoarse waves of notoriety. For them the medical profession is only a trade,—and trade-signs surround their every movement.

Each one of you will eventually find yourself in line with this class of physicians, or with that which tries to live up to the highest ethics of your profession; and much will depend on the first steps you take in shaping your path, in deciding the rank you will finally fall in with. If you would be mustered with the Jenners, the Brights, the Virchows, the Pagets, the Grosses, the Da Costas, with all the princes of medicine and surgery, you must enrol yourselves with them in ethical conduct from this very night,—for even occasional wandering from the rules by which their lives were guided will gradually but surely draw you down to the level of, and associate your names with, the

Cagliostros, the Holloways, the Hahnemaniacs of Medicine, the peddlers of puerile pellets, the vendors of elixirs of life, safe-cures, and microbe-killers.

There is a wide gulf of separation between a profession and a trade. The one opens its doors widely to all competent comers, and places no restriction on its membership save those of a proper education and a proper course of conduct:—the other ties itself up in trades-unions, fixing one wage for all, lowering the most skilled to the level of the poorest workman, and prevents even the children of its members from learning their father's trade, by restricting the number of apprentices in a shop. A profession works, as a rule, without fixed compensation for each minute of time or act of skill, does fully one-half of its work for charity, and varies its fees in accordance with the ability of its clients;—the trade does nothing for sweet charity, but demands from rich and poor alike a fixed price for every minute its journeyman spends in loafing along the streets, and keeps a lien upon the work until its demands are fully complied with. The profession gives more than it agrees to for all it gets—the trade puts forth its best efforts in striving to realize the largest possible profits from its contracts. The profession, of its own accord, furnishes the best material attainable for its work—the trade puts in the worst material it can get accepted, and strives to cover its defective material and poor work with some varnish which will hide its faults. The profession publishes its discoveries, tries to educate the people in its methods, to make them familiar with its tools, and to inculcate a mode of living which will lessen the demand for its services—the trade hides all its secrets, or protects them by patents, and not infrequently does direct injury to property for the purpose of making future work for itself. The profession exhibits but a modest sign, to show its abiding-place, and avoids every appearance of show or display—the trade covers walls, windows and fences, even the rocks, with glaring and often vulgar devices, proclaiming itself to the ignorant, and exalting itself above its neighbors, by claims which are frequently as false as they are impudent.

In all professions you will find tradesmen, individuals who have only the trade idea, and who consequently debase their profession by lowering it to the trade level, and working for money alone. In none is this prostitution more frequently

seen, than in the one upon which you are entering. As you will find *lawyers* who foment quarrels, sell out their clients, and make laws so loosely as to increase litigation; as there are *clergymen* who cry hell-fire from their pulpits, and trade upon the fear of everlasting punishment in a future life; as you will find *dentists* who will drill holes in sound teeth, in order to fill them at another time, and who hang monster molars in gilded wood before their offices,—so you will find *physicians* in every community who prey on the ignorance and confidence of mankind, frightening their clients into long periods of treatment by exaggerating their ills; pretending to make operations or making useless ones, on parts of the body which the patient cannot see; falsely announcing the existence of specific diseases to which the patient's folly may have exposed him; and advertising themselves and their cures by every method which ingenuity can suggest. Whatever the particular methods employed, the trail of the serpent is over them all; they have one object alone, the advertising of their owner to the world.

Morally viewed, all advertising is wrong, because it tells only one side of the story, and keeps the other side studiously concealed. There is, however, less wrong about it in the trades, because every buyer is supposed to know something about the quality of the goods and their prices; and can, at any rate, go around from shop to shop, examine and compare, before purchasing. But in a profession there is no such opportunity, no such safe-guard, for the client. The public cannot weigh a lawyer's judgment, or feel of a physician's skill, it only knows what rumor says as to the successful results of either man's practice; and this rumor emanating from himself and his friends, it deals only with his cures, his successes,—never with his failures to cure, unless in cases where such failure will redown to his benefit by letting it be known that he is engaged in a criminal practice.

The legal profession is pretty free from the most obnoxious sorts of advertising, and the reason is found in the complete control which that profession exercises over its membership—a privilege which it has never given to our profession. Suppose that a lawyer came here from an eastern city, and commenced his professional career by advertising in the daily papers that he had never lost a case intrusted to him, that he had more legal learning and a better legal education than any other law-

yer in the community, that his control over judges was paramount, and his influence with juries unassailable, that in short he had a corner on all legal machinery, and could guarantee a successful issue to every case he accepted, that consultations with him were free, and that "no judgment, no pay," was his rule of practice,—how long would such a man retain the privilege of practising before the courts of this State? Not one legal day after his advertisement was presented to a court; and his disbarment would operate, not only here, but in every part of the country, so that he could not emigrate from one State to do the same in another. Yet lawyers deny us the right to expel similar advertisers from the medical profession, and even State Supreme Courts reverse convictions on the most flimsy pretexts, gravely stating that a physician has a right to inform the public of his self-asserted skill, and thus casting the mantle of legal protection around the most glaring violators of our time-honored ethics.

Though these instances of professional wrong-doing are by far too common, they are not so flagrant as they were in former years, in the body of the regular profession. The open advertisers are relegated to the quack-list, debarred from any professional association or help in time of trouble. Hence they must always be on the wing, ready to flee if serious prosecution arises, or else be prepared to purchase a successful result, by surrendering a large portion of their gains. Between satisfying the black-mailing portion of their clientele, the regular charges for medical advertisements, and the fees to lawyers and juries, the financial lot of the quack is not always an enviable one. His half-brother, the would-be advertiser, is not, on the whole, much better off. Generally shunned by his brethren, and cordially despised by the best elements in his profession, his peculiar practices bring him into a constant warfare, as he struggles to rise on the ruin of others. No matter how many of the laity are sounding his praises, no physician ever commends him. Too often has he ruthlessly trampled on their feelings in consultations, ingratiated himself into their families by unworthy means, and slaughtered their reputations before their patients—so that, poor human nature not being yet angelic in its forgiveness, they pay him back when they get the chance, and the chance is sure to come.

The change in professional feeling about such matters is well

exhibited by contrasting the elevated tone of our code of ethics with the advice given one hundred and fifty years ago to a young graduate, by the celebrated Dr. Mead, one of the most highly distinguished and honored physicians of London. Among many other things he said—

"The first thing I advise you to do is to make all the noise and bustle you can, to make the whole town ring of you if possible, so that every one may know that there is such a being, and here in town, too, such a physician."

"If your wife mind business in her way, it will certainly increase yours."

"Should you have an itching to write a book on physic, I would advise you to choose a subject by which you think you will get most money, as fevers, smallpox, etc. For in these diseases some must always live, some die; it is a hard matter to tell when right or when wrong."

"And next then I would advise you, whatever the subject you write upon, rather to write so as neither to make downright sense or nonsense thereof, than otherwise; because thus none of the profession can well lay hold of you for any particular part; or, if they should, there is room for you to defend it, being as easily understood one way as the other."

The author of this advice was a member of the Royal Society, physician to St. Thomas' Hospital, lecturer at the Surgeon's Hall, regular physician to Queen Anne and King George the 2nd, the recognized head of his profession in England in his day, and the author of several important medical works. Fancy a Paget, a Quain, or a Gross, giving such advice to a young graduate at the present time!

It is, however, a fact, highly complimentary to the American medical profession, that the great majority of physicians given to these trade methods in this country are men of foreign birth and education. Excluding the openly-acknowledged quacks, and looking at the regular ranks alone, you will find these objectionable practices chiefly indulged in by medical immigrants, not by graduates of our own schools. Received by us with open arms, admitted to practice on diplomas, which in many cases do not confer the right to practice in the countries where they were issued, a very large proportion of these men utterly ignore our ethics, treat our graduates with half-disguised scorn, and habitually employ methods of professional practice which they would not dare to use in their own countries. As one young man said to me, when I remonstrated with him for some unethical conduct, "Well, you know, I thought one could do almost anything

in America." It is high time we abandoned free trade in foreign diplomas and compelled the respect of medical immigrants by enforcing on them the same requirements that their countries demand of our graduates, before permitting them to practice here. When we do this, our first-class diplomas will obtain full recognition abroad, in every civilized country, a recognition which will never be accorded to them until we so honor them ourselves.

One unpleasant feature of professional success is that every step in its course entails a certain amount of professional failure to some other one, pehaps equally, perhaps more deserving. Every case the lawyer wins, some other lawyer must lose; and almost every patient you get, in your first years of practice, will leave some other physician. As a man rises in any profession, he is obliged to tread upon the position of some one of his brethren. This, of course, entails a certain amount of jealousy, the outcome of our human nature, and which cannot be entirely prevented; though by his own conduct, it is in the power of the rising man to abate much of it, and even to make firm friends of those who are injured by his success. If no harsh words are uttered, if no mean implications are thrown out, but if, on the contrary, the interests of the displaced physician are carefully guarded by the successor, there may be some feeling at first, but in the end a friend will be gained, for his friendship has been deserved. One of the best rules to follow, when succeeding another physician in a case from which he has been dismissed, is to say that you are greatly indebted to your predecessor for having so thoroughly exhausted a certain line of treatment and thereby prevented your having to go over the same ground. This you can truthfully say, for it will be true in almost every such case. It will exalt you, as well as the other man, in the eyes of the family, for in honoring the work of his brethren, a physician always honors himself. Professor Gross laid down a noble example in this respect, for all of us to profit by. In his autobiography he says: "I never spoke ill of a professional brother, or did anything directly or indirectly to undermine his standing with his patients, the profession or the public. On the contrary, I have often gone out of my own way to sustain and defend him; sometimes, I fear, when silence might have been the correct course." And well was he rewarded for his magnanimity! No American surgeon was ever so beloved by

his brethren, or so highly honored by them at home and abroad, as he; and when, a few years since, he passed away, crowned with the glory of years and fame, no surgeon was ever so regretted throughout the length and breadth of the land. One of my greatest treasures is a letter from his hand, written a short time only before his death, in reply to one of mine submitting the details of a case to him, and asking for his advice thereon. Though full of years and infirmities, and in the sickness which soon after ended his life, the dear old man wrote to me at length with his own hand, paying as much attention to the request of an obscure physician in the far West, as he would to one of eminent position in an Eastern metropolis.

The professional jealousy of physicians is a never-failing theme of amusement and vilification, on the part of nonprofessional people, and even on that of other professional men towards ours. It is claimed that we are absurdly jealous of each other, that our requirements as to professional courtesy are too strict to be observed. and that no man can possibly live up to the full demands of our code of ethics. But when a little thought is given to this subject, the charge will be seen to be unfounded. We do hold each other to very strict ethical lines, and it is necessary that we should, for there is no other profession in which professional propriety is so easily transgressed.

The lawyer deals with courts and juries; by argumentative appeals to reason, precedent and statute law he influences the former; by oratorical power and, sometimes, by cunning representation, he gains the latter; but all his utterances are said in open court, and in the hearing of the accused and his counsel. Then, too, if he fails, he has the court and the jury, as well as the law, to share with him the blame, and he must be a poor lawyer, if he cannot show that the case was not lost through any fault of his. Even the clergyman, in his professional work, deals chiefly with the members of some one organization, bound by many obligations to sustain him, and has no rival to contend with in his immediate sphere. His hearers are sane, are healthy, and are never permitted to reply to his arguments. He is supreme over all he surveys, as long as he does not offend the prejudices of the influential members of his flock. But the doctor deals with the sick, with those whose minds are warped by anxiety or by disease, and with those, perhaps, whose judgments are clouded by insanity. He has no judge to lay the blame upon,

no jury to stand between himself and abuse; he must take all the fault of the failure on his own shoulders, and, reversing the clergyman's position, he can never reply in his own defence, though open to assault from every direction. Homœopathic friends, who have known of such wonderful cures, urge the family to send for their pet physicians; others, no less generous, have some miraculous oil, or wonder working salve, which, if only tried, will be sure to do her good. Or, perhaps, some one cured by Christian science of a disease which never existed, prayerfully pleads with the sick one to dismiss you and send for the holy healer, who will show her the way to recovery by faith and prayer. Even the nurse, trained as she may be, may bring advertisements of patent medicines into the sick room; or, perhaps, beguile the lonely hours by telling your patient of the wonderful success of some other physician, who has never shown a disposition to resent her various little schemes for pleasure, profit and self-glorification. Is it any wonder, then, that with all these influences to contend against, the physician should hold his own brethren to a strict line of conduct, when by merely lifting an eyebrow, or shrugging a shoulder, they can express a doubt as to his ability to those who are eagerly watching for any straw on which to cling their hope for restoration to health? And yet all that he demands in this regard is compliance with the golden rule of doing unto others as we ourselves would have them do unto us.

You are going out into a hard world, and entering upon a hard profession,—one that has few material rewards to bestow, and reserves her favors for those who devote themselves most strictly to her requirements. She brooks no half allegiance,—permits no other pursuit to engross the time of her successful aspirants—no other aim to divide the energies of those who would be crowned by her. But in all ages she has stood among the first of the callings of men; from the very dawn of story, when the Supreme Being himself performed a surgical operation upon the first man's rib, from which to manufacture the master-piece of creation,—down to the heroic era, when the first and grandest of poets pronounced a skilful physician to be worth an army,—and to the present day, when a sovereign's son is a practising surgeon. Next after warriors, the ancients exalted physicians among the gods. Back in the myths of mythology, before history had a beginning, we find the king-phy-

sician, Æsculapius, who had divine honors paid to him, was ranked among the gods, and gave his name to the profession of which he was the earliest representative. Even in the days of Rome's imperial sway, and during her most brilliant intellectual epoch, her foremost orator and author, the great Cicero, declared that "*men in no way approach nearer to the gods, than in giving health to their fellow-men.*" This was uttered 2,000 years ago; but nearly 4,000 years before then, Tosorthros, the King of Egypt, who gave three hundred and sixty-five days to the year, was a devoted student of medicine, and recorded on the monumental rocks of that primal store-house of art and science, his veneration for the physician's calling. Those of you who for some years will look from the sidewalk upon your more prosperous brethren in their carriages, may divest yourselves of envy if you can believe that the most successful physician this world ever saw, he whose name is now daily repeated by millions of those who worship him as the Son of God,—who had power over all disease, and even over death and the grave,—that he *walked* about the streets on his missions of mercy; had no home, not even a place to lay his head; and in his most triumphal hour had only an ass, and a colt, the foal of an ass, upon which to ride through the crowds of his worshippers.

In your early years of struggle, you will need more solid comfort than legend can give you, to encourage your hopes; and the history of medicine gives you this encouragement, in showing you that the princes of our profession were those who struggled against adversity in the first (and often many) years of their practice. Cheyne, when thirty-four years old, and in his second year's practice, only received three guineas during the last half of that year,—but nine years afterwards he was making £5,000 per annum. Chambers, of London, when thirty-four years old, and in practice five years, only took in £211 in a year, but seventeen years after his annual professional income reached £9,000. Baillie, who, before Chambers, had the best London practice, receiving £11,000 a year when that amount represented five times as much as it does now, had a slow and tedious march upwards, having been for twelve years a physician to St. George's Hospital, and for nearly twenty years a lecturer in the schools, before even moderate success began to come to him. Hunter, who spent a large fortune on the splendid museum which now graces the University of Glasgow, was

so " hard up " one year in London, that he had to postpone for two weeks the opening of his third lecture season, not having money enough to pay for the usual class advertisements. Sir Astley Cooper only received five guineas during his first year's London practice, though he was already a lecturer on anatomy and surgery. In after life, his professional income in one year reached £23,000. Sir Benj. Brodie did not get into full practice until he had been for twenty years lecturing, practicing and publishing. These are some of the instances which medical annals afford, of men successful above all others of their compeers in material results as well as in fame, who came up through trials and tribulations of every kind, the overcoming of which gave them new strength to bear them onward in their course. It is a beautiful idea, that of the ancient hero, who, when pressed by his adversary to the earth, received new vigor from his contact with the mother of all, and arose with greater strength for the encounter. In your future years of success, in full tide flowing fast and strong, your greatest pleasure will be derived from the remembrance of your early struggles; and you will then see that you too arose stronger every time that you seemed to have been beaten to the earth. These remembrances will be all the more delightful if you know that your strength was always put forth worthily, and that your art was always revered as someting never to be defiled;—that, like the Mohammedan, who never holds his koran below the girdle, nor touches it with unwashen hands, because of his belief in its divine origin, you have ever held your profession above the baser things of life, have ministered in it from pure motives, and never practiced it with unclean hands.

Those of you who are young have the greatest element of success at your command, namely—youth—your most valuable qualification. Only in youth can the ground-work of a really good education be laid, and it is in your youth that you must construct the substructure which shall be broad enough and deep enough to support the superstructure of success, and make it enduring. But even in your youth you can do much toward actual success. The greatest work done in this world has been done by young men. Jesus and Alexander lived each only thirty-three years, but one had conquered the world by his arms, and the other was to conquer it by his love and self-sacrifice. Napoleon commanded the army of Italy at twenty-seven,

was First-Consul at thirty, Emperor at thirty-five and King of Kings at thirty-eight. Vesalius was only twenty-four when he wrote his great work on anatomy; Newton was but twenty-three when his observation of the falling apple gave to the world the knowledge of the greatest of its physical laws. Even in our profession, where a certain age has ever been considered a necessary qualification, the younger men are daily coming into greater prominence. So do not feel badly when you hear that some older physician has said of you, "Oh! yes, Dr. Jones is a very nice young man, a graduate of Cooper, too, a most excellent college, stands at the head! He will, no doubt, make a very excellent physician, when he has had some few years experience." This kind of remark does not impress people as it formerly did.

In order to attain professional success there are three very necessary requirements, without each of which its accomplishment would be miraculous. The first is that you must deserve it. "Tis not in mortals to command success, but we'll do more, Sempronius, we'll deserve it." And in order that you may deserve it you must work for it. "Seest thou a man diligent in his business; he shall stand before Kings, he shall not stand before mean men." So wrote the wisest of Kings, and human experience in every walk of life verifies his words, and teaches the inexorable lesson, that it is labor and only labor, that conquers. One of our most successful surgeons, the elder Gross, who was honored both in his own country and abroad as few American physicians were ever honored before, has left behind the following testimony to the same effect. He says: "To accomplish great ends demands patience, perseverance, unswerving application, order and system, and a definite aim,—in a word, talent rather than genius. The only genius I possess is the genius of industry; if I have any other I have not been able to discover it. The position which I have attained in my profession has been achieved by hard labor, by no special intellectual endowment, by no special gifts from God, by no special favor from man, but by my own unaided efforts, continued steadily and perseveringly through a long series of years."

And lastly you must have aspiration, you must aspire to success, not now, not for a year, but for life; and as one difficulty is overcome and others open up before you, as Alp on Alps arise on your horizon, your look must be ever upward if you would

reach the summit of the range. All higher life is constant aspiration,—in morals for the good and true; in art, for the beautiful; in science, for the unknown.

In this pursuit there is nothing too small to be neglected. The most insignificant fact, if unobserved before, may be the means of giving a new truth to the world, and securing for its observer immortal fame. A chance word uttered by an English dairy-maid in the presence of a young physician, led him into an investigation which resulted in the conquering of one fell disease, and gave Jenner a crown of glory which time can never remove from his brow. Who could have thought that when the physician Galvani observed the twitching of the frog's legs as they hung on copper hooks from an iron rail, his observation would in a little more than fifty years develop into the telegraph, and soon afterwards into the telephone; or that the dark lines seen by Frauenhofer in the spectrum would become the means of determining the physical constitution of the sun, and give to chemists the most delicate method of analysis ever discovered!

The kind of success to which you should aspire is that of the eminent medical man in all ages and in every community—one who is thought well of and looked up to by his brethren, and trusted implicitly by his patients. To be honored by your own profession, as a man of learning, skill and judgment,—to be beloved by your families, and to be the chosen counselor of their young men and maidens,—to be the one above all others to whom your clients turn for advice in time of sickness and trouble,—to be eagerly sought in the hour of danger and anguish with full confidence in your power of relieving,—to have the family altar laid bare before you, and its secrets intrusted to your keeping, with the fullest faith in their being safely guarded,—to be the hope of many, the friend of all around you,—to be in a position enabling you to be benevolent and charitable beyond any other vocation, imbued with the feeling that to refuse your professional aid in the relief of suffering, even to a personal enemy, is a disgrace,—to be taught by the daily exercise of your calling those virtues which make men great and good,—to succeed in these aims is true success, beyond the measure of any professional income. After every such act of your professional ministration, you will find a glow in your heart, which no amount of money gained by fraud and deception could ever bring there.

Having these results of success, you will not want for the pe-

cuniary part of it. "Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you," was said of old from the Mount of Olives, and is as true in professional as in spiritual life. If you seek first the standing and reputation of the true physician, the material rewards will come in due time; and standing at last before the Osiris of the public and professional judgment, you will be able to defend your career in the ancient formula,—"*I have not been idle; I have not been intoxicated; I have not told secrets; I have not defrauded; I have not caused tears. I have given food to the hungry, drink to the thirsty, and clothes to the naked.*" And as the Osiris of the ancient belief received the justified soul unto himself, and absorbed in into his own person—so may the purity of your professional lives perhaps justify your exaltation to the throne of Æsculapius, and the incorporation of your soul into the divine essence, from which may emanate the souls of other physicians in some future age.

Much more of counsel might be said to you who go forth from these halls to-night to enter upon the commencement of your professional lives; and if I were sure that you would profit thereby I would gladly continue, in the hope of sparing you the consequences of some future stumble. But it is a recognized law that "neither nations nor individuals profit much by the experience of others,"—and so it is with physicians, each one must go through his experience for himself, "learning through suffering, succeeding through blundering," and attaining to the calmness of wisdom through the pains of folly. Hence I will now take leave of you, and in bidding you farewell, I must give voice to the hope that though we separate here as students and teachers, there are cords now extending from this room into your hearts, which in your after lives shall bind your teachers to you and you to them. May you fare well indeed in all you undertake, every one of you; and may your lives be as serviceable to humanity and as honorable to yourselves as your most elevated impulses can desire. This must be, if in the darker hours of your early struggles you will keep before you the noble words so often quoted, but never quoted too often, in which the first of American poets has said that

> "Lives of great men all remind us
> We can make our lives sublime;
> And departing, leave behind us,
> Footprints on the sands of time.

And, if laboring and waiting in this spi
in vain, for all other things being equal
come to each one of you. But, when succ
not those by whom it came, and with grat
friends of your struggling years, continue
have tried to point out, letting your "light
that they, seeing your good works, may glo
fession of which you are a member, and ho
diploma you bear.

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ADDRESS

By REV. JACOB VOORSANGER, D.D.

Ladies and Gentlemen of the Graduating Class:—It is claimed that a Jew becomes a Gentile in but one spot on earth, the Mormon-ridden Territory of Utah. It may likewise be said that a school devoted to the study of medicine is the only one where a clergyman becomes a layman. As a layman, therefore, I esteem it an honor and a great privilege to address you upon this, the most important evening of your lives. Important to such an extent, that I fancy you must be profoundly impressed with the solemnity of the moment. The school is about to close its doors upon you. Your trial is about to commence. For no man is truly tried until he has been weighed in the balance of public opinion, and has not been found wanting. The opened door must reveal to you the seething mass of human beings, all impelled by the laws of force and motion, some beginning the tramp through life, some hurrying to that eternal bourne, whose veil cannot be pierced even by the physician's experienced eye. Your place in this world of human beings, what is it? Your station amongst the children of this generation, must needs be one of eminence, because it will bring you peril and labor, and very little enjoyment. The priests of humanity do not distinguish themselves in the banqueting hall. The most eminent servants of suffering men are those whose lives are devoted to the greatest toil. Your place, therefore, being one that will bring you in contact with human weakness, rather than with human strength, it may not be amiss, gentlemen, to supplement your knowledge of medicine with a few considerations, which may induce you to believe that others, beside yourselves, have a high and exalted opinion of the profession you have adopted as your life's work.

There is no profession on earth, that requires so much actual knowledge joined to strength of will and character as the profession of the physician. Notice, that I do not use the usual term profession of medicine. Time and circumstances, the eternal progress of things and the increased refinement of humani-

ty's perceptions have made you something higher, greater and holier than mere doctors of medicine, that is to say disciples of a certain branch of mental experience. In the application of that mental experience to the needs and sufferings of man lies the greater mission, the more useful profession. You graduate as doctors of medicine, you will be judged by your ability as physicians. To-day it is your knowledge theoretical that enables you to pass out from here provided with a sheepskin; to-morrow it will not be so much your knowledge as your skill to apply it, not so much your diploma as your character, not so much your fine minds as your sympathetic hearts that will win you the plaudits of humanity. To-day the question is whether you have satisfied the programmes and schedules provided by the Faculty for your instruction. To-morrow you enter the greater school of the two, the school bounded by no walls, limited by no horizon. Its amphitheater is the bedside of every patient, and you, the professors, will have as audience the entire host of sufferers who shall be confided to your care. To-day ends the preliminary investigation, to-morrow begins your trial. The judge sits everywhere; his name is public opinion. As you have merited the approbation of your teachers, may you likewise exhibit those traits of character which we would fain believe have impelled you to enter the classic precincts of your profession. Then you will be adjudged veritable priests of humanity, your place will be in the high places, and your reward will be sure to come.

You may congratulate yourselves, gentlemen, that the world to-day has an adequate appreciation of the importance of your profession. It has not ever been thus. As a mental experience, the science of medicine has been compelled to fight its way to the front. The world is slow to recognize the eternal principles of truth. That which has been appeals stronger to the conservatism of man than the mere indication of what will be. The animalism in man impels him, alligator-like, to sleep away half of his life and with it half of his advantages. The growth of science is a record of the pertinacity of man's conservatism. New ideas are always suspected, because they indicate changes in the polity and economy of human action; and man has rarely been fond of new ideas. Applying this fact to that branch of science you are to demonstrate with your skill before the world, it will surely be to your advantage to turn now and then from

your busy toil and institute a comparative study of medicine to-day, and medicine in former times. You will learn, then, that the world itself has to some extent changed its attitude toward science. Formerly the herald of a new era was hooted by his contemporaries; his reward came after his death. To-day the world treats new ideas as a child his toys; one after the other are cast away to make room for something new, something more glittering. There is perhaps nothing extraordinary in this. It means that we multiply experiences faster, much faster than our fathers have done. Kepler and Galileo are types of their day as Edison is of ours. Medicine has not escaped this evolutionary tendency. Forty years ago an anæsthetic was laughed at. They used to heal wounds by pouring boiling oil on them or cauterizing them. They healed fever by bleeding, and a large category of ills was generalized under the name of distemper. The physician of old had an easy time of it. What he principally needed was some knowledge of herbs, to wear a black gown and to look wise. To be sure, it would be the very height of ingratitude to use this pleasantry in any other but a comparative way. For after all, the degree of scientific progress and improvement depends mainly upon the number of experiences that have contributed to make progress possible. And these experiences are not born with us. They are the legacy of anterior times. The incantation of every ancient priest, the formula of every ancient herbalist contributed to the materia medica of Hippocratic times. Human judgment has never failed to expend its keenest perceptions upon the sick and the suffering. Medicine is older than Hippocrates, surgery is rather a science of necessity than an art. The great imperative of all applied knowledge, necessity, has brought forth the great healers of the human race. Nature which gives birth to the infinite variety of living things creates likewise the ills to which flesh is heir, but like a beneficient mother she creates the remedy as well as the evil, and places in the human mind the perception to remove the evil, the power to restore physical and mental harmony as well as the faculty to suffer. The degree of knowledge of these ills is on a par with the relative power to remove them. It may, therefore, be set down as fact that in no branch of human experience the relative development thereof is so much governed by necessity as in that branch denominated as medicine. It is, therefore, the oldest and most useful of all sciences. We

can dispense with much that applied science has called into existence. We could illuminate the darkness of our nights with an oil lamp and be as complacent as ever; we could travel across the continent in the old, slow way and be happy still; we could afford to dispense with telephonic communications and yet successfully discharge our social and professional duties, but in view of that great and dread necessity of hearkening to the voice of mother nature in her dispensations of the destiny of humanity, the least retrogression or reaction in the applied science of medicine would be a crime for which there can be neither pardon nor atonement. In view thereof how marvelous it is that humanity has been as conservative toward that providential science as toward every other experience calculated to widen the horizon of human knowledge. There seems to be a chasm between the golden age of Hippocrates and the era when modern medicine emanated from the scholasticism of mediæval times. The Greek physician was a courted philosopher, the favored of the gods, the inspired dreamer, to whom in visions of night, remedies were revealed that were more readily adopted by his patients than the advice the priesthood bestowed by direction of their oracles. The Jewish priest, who was likewise the healer of his constituents, was, I fancy, more courted for his power to heal leprosy, than for his knowledge of the mysteries he thought to behold in the curling smoke as it ascended from the sacrificial altar. There may be a psychological or perhaps a social reason for this chasm. The Greeks and Romans, the Egyptians and the Jews, were the exponents of an almost perfect social organization. In a nearly permanent state of peace, attended by the comforts that make life pleasant, humanity more readily detects its ailments and turns with more confidence to anyone who has the power of healing them. These are the times when the school is asked to respond to the voice of the world, and science is commanded to shield humanity with its protecting raiment. But in mediæval times humanity stood on a volcano. No one could tell when the crater would begin to emit its destructive substance. No voice had come to it from antiquity; it was as if the spirit of God had never breathed on the face of the deep. In Byzantium that voice had been suppressed, and when it spoke again it spoke as from a grave. Constantine and the princes who came after him, dominated by ecclesiastical influence, killed the aspirations of the wise men of

their generation, and directly caused the lamentable ignorance of the middle ages. Listen a moment to Draper: "The Asclepions were closed, the schools of philosophy prohibited, the libraries dispersed or destroyed, learning branded as magic or punished as treason, philosophers driven into exile and as a class exterminated, when it became apparent that a void had been created which it was incumbent on the victors—priests—to fill. Among the great prelates, who was there to stand in the place of those men whose achievements had glorified the human race? Who was to succeed to Archimedes, Hipparchus, Euclid, Herophilus, Erastosthenes? Who to Plato and Aristotle? The quackeries of miracle cure, shrine cure, relic cure, were destined to eclipse the genius of Hippocrates and nearly two thousand years to intervene between Archimedes and Newton, nearly 1,700 between Hipparchus and Kepler." It is a true picture. Our mediæval ancestors had no knowledge of antiquity and its blessings, for all the experiences of that age were bottled up in the cloisters and the churches. When they turned their faces to the East again, the clouds receded from their vision. The germs of social and scientific life that the crusaders brought with them were planted in European soil, where slowly, very slowly, they took root. And still there are four centuries between them and Paracelsus, and two centuries more between Paracelsus and Harvey, since whose time, I presume, the progress of the science has been uninterrupted. We find then, truly, that for almost two thousand years the glorious science you follow as your mistress has been permitted to remain at a standstill. Is it not a sad testimony of the enslavement of the human mind for all these years? For all these reasons I emphasize once more that you may congratulate yourselves of becoming the servants of humanity in the 19th century. To-day science stands revealed in all her beauty, and she fears neither the domination of priest-craft nor the blasting touch of ignorance. To-day, in her triumphant march through the towns and villages where men do congregate, the soft melody of her strains is no longer confounded with the tinkling of a fool's bells, of that very fool who followed in her wake, and whose occupation is gone forever. To-day her votaries are called blessed; the prison no longer stores them, the pyre no longer claims them. To-day wisdom sits in the high places of the earth, and those who pursue her ways are the real agents of a benign divinity. And you, gentle-

men, you, who are to-night called to sacred service on behalf of humanity and in the service of science, be sure that you hearken to the voice of your mother. You have learned much; she tells you that her knowledge is inexhaustible. Your actual experience is about to begin. If you now confess yourself content with the moiety of information you have gathered, it would have been better had you never commenced. For there is a greater curse in our modern world, to my mind, than a narrow-minded priest, and that is a narrow-minded, unfinished, uninformed physician who has not kept abreast of the times. Your profession and your duty both demand that all the days of your lives you shall remain delvers in the gold mines of science, for knowledge *is* power, and since power is given you, you must have knowledge. Then, from this place shall go forth to-night apostles of humanity, whose names shall shine lustrously with the merit that crowns their careers, and on the entablatures of future renown their names shall be registered as worthy scions of a noble race of benefactors to humanity.

And then, as I have had the honor of observing already, your duty lies not exclusively in the gathering of experience, in the acquisition of skill, or in the opening of new avenues of truth; it lies, perhaps, in a greater degree in the acquisition of those personal qualities that stamp the physician as a great man. Your mission is to remove the sting of suffering. You will come in contact with humanity divested of all the attributes of strength. You will meet men, the strongest of whom will ask to lean upon you as upon a staff of support, women who will look upon you as their deliverers, fathers and mothers who next to their God will call you the Savior of their children. You will enter homesteads disturbed by the presence of the dread angel of death; your eye alone will see the glitter of that ominous sword that cuts the thread of life; your power alone, under the dispensation of that omniscient spirit that moves you, may suspend the fatal descent of that sword. You will meet humanity in tears and in pain, you will enter hospitals where side by side suffering men give witness of the large catalogue of human ills; you may be called upon to stand, like Aaron the High Priest of Israel, between the living and the dead, and stay the plague that may be wafted on pestilential wings from distant climes. You may, God give that you may not, stand between lines mowed down by the scythe of death, men shot on the field, their life arrested by shot and

bomb and cannon ball, and you standing to protest against the destructive power of man himself. When these tests come to you, what will you do? Gentlemen, ask your Maker on bended knees to give you the greatest strength, the greatest endurance that can come to you. If you have it not, stand back! Humanity will not be served by weaklings. And then, look to the reward that will come to you. You are bread-winners, it is true, but so are we all. But God help us, if our life were but a struggle for bread. Think of the greater reward that will come to you, the strengthening pressure of hands, whose owners you have snatched from death, the grateful look of sufferers whose wounds you have healed, the benisons of loving mothers whose babes you have saved, the approbation of your own conscience that the task was well done! And then again, you are expected to set an example in still another direction. To inspire confidence you must be better than your neighbor. You must at least try to be. Your truest claim on the confidence of your patients will be established by the loftiness of your own character. The world is not very eager to confide its most sacred interests to men whose character is not above reproach. Therefore, whilst you will be the exponents of science, you must be at the same time the exponents of the highest conception of morality, the demonstrators not alone of the ailments of men, but of the highest duties of citizenship, the cultivators of all that is truly noble in our time and generation. Thus equipped, your strength will be great, your light will shine as the noon-day sun, and your mother will bless you, for that her sons have proved worthy of the trust she reposed in them.

And now, gentlemen, permit me, as an humble layman, to congratulate you upon the distinction that has come to you, and to wish you a full measure of success in your undertakings. An ancient maxim sayth the day is short, and the work is much. 'Tis so indeed. What a short span of life is ours—how immense the measure of our work!

And it is sometimes discouraging to think that all human effort, be it ever so great, ends in the grave. We leave nothing but our experiences behind us, to bless those who will come after us. Be it so, gentlemen. Go forth to your duties, to battle with the arch-enemy of man—death—armed with the consciousness, that the greatest glory of a well-spent life is the immortality that has its seat in the grateful memories of man-

kind,—that the greatest punishment to idle, unaspiring men is not death, but oblivion, dismissal from the attention and memory of a generation eager to distinguish the brave, the true and the good.

> But can the wiles of art, the grasp of power,
> Snatch the rich relics of a well spent hour?
> These, when the trembling spirit wings her flight,
> Pour round her path a stream of living light,
> And gild those pure and perfect realms of rest,
> Where virtue triumphs, and her sons are blest!

AN ADDRESS

red to the Graduating Class of Cooper Medical College, Nov. 13, 1890.

BY

I. COOPER LANE, M.A., M.D. (Berlin), M.R.C.S. Eng., LL.D.

San Francisco, Cal.

AND

AN ADDRESS

red on the occasion of the Unveiling of the Bust of Dr. L. C. Lane, at Cooper Medical College, Nov. 13, 1890.

BY

EDWARD ROBESON TAYLOR,

San Francisco, Cal.

SACRAMENTO, CALIFORNIA:

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AN ADDRESS

Delivered to the Graduating Class of Cooper Medical College, November 13, 1890.

By LEVI COOPER LANE, M. A., M. D., (Berlin), M. R. C. S. Eng., LL. D., Professor of Surgery, Cooper Medical College.

Nullus argento color est, nisi temperato splendeat usu.—*Horace.*

Non quia intercedendum putem imaginibus quae marmore aut aere finguntur: sed ut vultus hominum ita simulacra vultus imbecilla ac mortalia sunt, forma mentis aeterna, quam tenere et exprimere non per alienam materiam et artem, sed tuis ipse moribus possis.—*Tacitus.*

Ladies and Gentlemen: Among recollections most valued by me, is that of a visit to Thomas Carlyle; he was in his eightieth year, and referring to this, he spoke plaintively of his advanced age, and quoting Ossian, said: "Age is dark and unlovely." Though time had made a ruin of his body, and his once clear, blue eye had become dry and lustreless, still in his remarkable conversational powers his intellect showed no impairment; among the glittering thoughts which fell from his lips, the following I most prized: "Yours is the greatest of all human professions; indeed, mankind would be quite as well off if the other professions were put to bed."

For three years, Cooper Medical College, your Alma Mater, has trained you with a teacher's arbitrary strictness, yet combined with affectionate tenderness; to-night she gives you the legal passports which admit you to that profession declared so great by Carlyle. You have long looked hopefully towards this hour, for it completes the discipline for a life's labor in the field of humanity. From your course of studies you have come forth victors; the spectre, Failure, which, in fearful outline, has so often hovered in your horizon, and chilled your breasts with doubtful apprehensions, has vanished forever. The twelve sentries who guard the

honors of your Alma Mater, have rigidly challenged you, and have failed to find cause to deny you admission. You are permitted to bear the palms, since you have proved yourselves worthy of them. Unceasing vigilance guards the prizes of this institution; and those who win them must be worthy of them.

The lover of ancient history who visits modern Rome will find much of antiquity to awaken his interest; and on a former occasion, when a pilgrim to that classic soil, the warmest enthusiasm was awakened in my breast when I touched the ground on which the ancient augur stood, and, by means of his arts of divination, he looked into futurity, and caught glimpses of coming events. In the field before him he placed his horoscope, and divided this into a right and left quarter, and according as birds were caught sight of on the left or right side, so the soothsayers saw portends of good, evil, glory, shame, success or misfortune. As said, this field and its incidents of olden memory awakened in me intense interest; on its far off limits I watched the flight of a bird, which, two thousand years ago, might have been the signal for starting on some military expedition or for the decision of some important matter of State: as the bird vanished in a distant wood, the current of my thoughts was broken, for the sight of the dome of St. Peter's church reminded me that the occupation of the augur had ceased, the ancient religion was a thing of the past, and that olden Rome had yielded her imperial power to her northern subjects. If deep interest was awakened by that famous plain of ancient augury, a far greater enthusiasm is kindled in me as I recall the fact that I now stand on the verge of a field, which is as rich in the secrets and unborn events of coming years as ever lay before the augur of olden time.

The ancient seer couched his prophetic utterances in equivocal terms, a license which his pliant language permitted; for example, the famous Delphic oracle could be truthfully interpreted either for or against victory. But the omens which appear in the horoscope of your future are very different, since they are involved in no ambiguity; their interpreter has no need of uncertain terms to conceal their import, since they are obvious, clear and self-evident. On the left, a quarter in which the old diviner sought for omens of good fortune, success and victory, instead of a plumed object, I observe a star-like pentagon, at each illumined angle of which stands an inscription in plainly written characters; these inscrip-

tions, glittering as if traced in light, read as follows: Earnestness, Sincerity, Cheerfulness, Willingness to Work, and Self-denial.

Freed from the embarrassments which shackled the ancient seer, I proceed, at once, to my task, and will commence with Earnestness, since I find it at the summit-angle of the pentagon and in largeness of character and illumination it is more conspicuous than any of the others, All great reformers who have stepped outside of the domain of accepted doctrines, whether in religion or science, have obtained a following through great earnestness; sustained by this virtue, such men have been steady in action, unwavering under opposition, unmoved by derision, faithful to convictions and undisturbed by danger. Such men in battle are found in the fiercest of the fight, animating their followers by example and word to stand firm and never give an inch. Even in a champion of error, such a quality commands admiration and attracts a following. This quality enabled Mohammed to convert, first his wife, then his brethren, and later, all Arabia, to the belief that he was a divine envoy; and thus one man was able to originate and propagate a new religion over a large portion of the earth. The Prophet was almost equaled by Peter the Hermit, whose wild earnestness awakened throughout Western Europe both peasant and prince to unite in a common expedition for the recovery of the Holy Sepulchre; a war in its strange and romantic character without analogue in human history. This was the instrument with which Cromwell cut his way through all ranks to the throne of England; and though he refused to ascend this, yet he grasped and wielded the sceptre at its side, with more force than any monarch. This commanding quality in our own Washington, won the hearts of his soldiers and enabled him to lead them through hunger, cold and untold hardships. It was this quality, woven ineffaceably into the texture of the Pioneers of California, which prompted them to leave their homes and meet discomfort and danger in every form; and after uncounted hardships to build up for us this wondrous home in the far West. These men were intensely earnest men. Countless examples of this virtue have been exhibited in the history of our profession; a mere citation of those meritorious names would occupy the remainder of this hour; it would compel me to omit the other inscriptions of our pentagon; this I cannot afford to do, and so I must limit myself to the mention of only two or three names. No

fitter one do I find than that of Edward Jenner, whose earnest and untiring work in the study of vaccination, has given the world the means of guarding itself against small-pox, one of the foulest and most terrible of human diseases.

In an autograph letter, which I have the good fortune to possess, Jenner gives a glimpse of some of the trials through which he passed before his discovery was accepted by the world; alluding to an investigation which was being made by the Royal College of Physicians, of the subject of vaccination, he says: "This inquiry will lay low all these troublesome ghosts which have so long haunted the metrop eir *ox-faces* and dismal hootings against vaccination." He thrust a gibe at the ridiculous objection which was inst vaccination, that in time it would convert the human face the likeness of that of the ox. And further he refers with great ide to the recognition of his discovery by the King of Spain. ittle did Jenner then see, that when contemporary malice and vy had expired, he himself would be enthroned among the g est benefactors of humanity, and wear a crown less mutable hat of Spain, which has since been the sport of political cha d once disappeared for a time in the vortex of popular revolution. Jenner's crown is more durable than one of gold, since it is composed of gratitude woven by hands which, through his discovery, have been protected from being marred by the spotted serpent which, before Jenner's time, was lurking in the pathway of every human being.

Another example of what an earnest purpose can accomplish is that of Lister, who has justly won for himself the title of Great Reformer in modern surgery. In the early announcement of his doctrine, Lister, like Jenner, met with intense opposition and even ridicule. I recall reading in an English journal a mention of him as the fanatic of the North, who was endeavoring to charm away inflammation by doing his operations in mists and vapor. Arrows tipped with epigrammatic mockery, for a time fell quickly around him from every side. To the followers of the old modes, so abrupt a change could not be otherwise than painful. The greatly modest, but equally earnest man, continued his work, and established the doctrine, of immense value to mankind, that inflammation, once so fatal in any species of wounds can, with certain precautionary procedures, be avoided or safely controlled. Lister has triumphed, and his name has taken place among the great

benefactors of humanity. Like Faraday his name has been assigned a place in all modern languages; and in ours Listerism will endure coeval with Faradism. And even should our race, with its wonted ingratitude, forget his name, yet his good work is assured of perpetual continuance in the years which it will add to human existence; and from the heart of the wounded man whose pains are reduced to easy tolerance, the incense of gratitude will constantly ascend, though it be to an unknown benefactor.

In every place and position of life, earnestness commands attention; nay more, it becomes the object of reverent admiration, and in their admiration men have chosen it as a proper name. The hardy Teuton, whose military achievements recently placed him at the front of Europe, finds no fitter, no nobler name for his child than "Ernest."

Earnestness coupled with genius insures supremacy to the fortunate possessor; when combined with mediocrity it commands respect, and when united to dulness it exempts from contempt. Hence, viewed from every side, to this quality must be conceded the rank of noble among human virtues; and therefore, in words clear and prominent, in the heart of each of you who hopes for success, should be written the resolve, ever to be earnest. Such a resolve carried into action will give you a commanding power in the exercise of your profession; by means of it you will kindle new life in the faint hearts of those who shall appeal to you for relief from pain, depression and sorrow. In the perilous voyage through the unfathomed sea of disease, across which you are to serve as guides to unfortunate travelers, this quality will enable you to safely manage the helm and rescue from death the precious freight entrusted to your charge.

In our five-sided oracular figure, next to Earnestness lies the angle bearing the inscription, Sincerity; and although things which have been said of the former may be spoken of sincerity, yet there is so much difference between them that it can be said that one may be earnest and not sincere; still no person can be sincere without being earnest. To illustrate this, a man may be earnest in falsehood, and hence he is insincere; but if he be sincere in his profession of a belief, thence must he be in earnest; and hence, as a deduction, earnestness to be of value must be linked to sincerity. The word sincere, when traced to its primitive origin, means unmixed, whence by an easy transition, the idea of

purity is reached; no bad addition to the modern meaning of sincerity.

Sincerity always enforces respect, even though it be met with in one who radically differs from us in opinion. In common phrase the sincere man says what he means and means what he says; thus, paraphrased, sincerity is nearly akin to truth. Metals increase in value in proportion to their scarceness; thus uranium and platinum far exceed gold in value; in like manner the rarity of sincerity increases the world's appreciation of it. Fortunately, unlike uranium, it is not so scarce as to nearly exempt it from common use; and wherever found, it instantly receives the tribute of respect. Very differently do we listen to the utterances of the sincere and of the insincere man; those of the latter are despised even by the insincere listener. The statements of a sincere man always command our attention; and if they are made concerning a scientific subject, with which we are not familiar, they will probably be accepted and added as facts to our stock of common knowledge; statements, however, of the insincere man, are unwillingly listened to, and we hasten to forget them. The place of sincerity, whether in a friend or an enemy, is clearly known to us; while insincerity figures in the equation of life as the unknown and indeterminate x, y and z; surd quantities baffling final solution. Encke, the astronomer, from whom a comet is named, once delivered a lecture to which I had the privilege of listening, in which he dwelt upon the means of correcting, or allowing for errors made in mathematical calculations. To do this, he cast dice from the usual box on the desk before him, and having noted the numbers which fell uppermost in a number of throws, from these simple elements, born of chance, he constructed a corrective rule which may be used to eliminate the mistakes which may be made in a long calculation. No lecture which I have heard ever awakened in me more interest than did that of the aged astronomer, in which the summit of human wisdom was gained, where the fallible man forms rules by which he plucks fallibility from his mental acts and the wished for stage of perfection is reached. The old savant in his work of reaching so grand an end by a path so humble, seemed another Prometheus, bringing from heaven a spark of divine knowledge in a simple reed. But no Encke, endowed though he may be with superhuman sapience, utilizing the doctrine of probabilities, can ever formulate a rule

which will enable us to distinguish the true from the false in the utterances of insincerity; good and evil are there so intimately alloyed as to be inseparable. Such alloy, unfortunately, occurs in the utterances and publications of some medical men, who, to gain unmerited notice, disguise their insincerity and falsehood in the seductive dress of plausibility; for example, such men announce unusually fortunate results hitherto unattained in their special province of work, and thus they acquire an unearned reputation for inventive power or unusual skill. To prevent such perversion of fact seems to baffle all effort, and the only hope of remedy is in the philosophic reflection that the selective and conservative power of evolution is unrestingly at work, and that, in the alembic of unlimited time, this agency is tirelessly separating the eternal verities from the dross of untruth.

In the material interchange and exchange which, between well men, occur in infinite variety, insincerity is an occasional factor; and business men, who belong to the school of expediency, claim that it is unavoidable; but in the society of the sick where you are to be busied, insincerity is singularly out of place. The victims of pain and sickness demand and look for sincerity in those from whom they expect relief from their misfortunes. Man can tolerate some deception and misrepresentation in the purchase of house, land or furniture; loss there may be tolerated, but if he be cheated in regard to his health, the injury is irreparable. I remember no more eloquent words than were once said to me by a poor Italian woman whose child was fatally sick. Said she: "Come often; if money goes it can come back again; but if my child goes, she will never come back again." This language was never excelled in sublimity by any words spoken by Cicero; and that the pale messenger bore her child away never to return again, was one of those bitter experiences of which, if I minutely scan your horoscope, I observe similar ones traced in dark lines by the finger of destiny.

Insincerity by arts of disguise may for a period escape detection, and for a time it may pass its spurious coin; yet ultimately it will suffer exposure; anon it will forget its mask and expose itself. Insincerity long practised at length declares itself in form and feature. The possessor's character is slowly but unmistakably engraven by the passing years in his face, and so plainly is it engraven that it is legible even to the illiterate. These facts are

well-known to, and utilized by, the artist. The following instances are offered as illustrations of this: In the Frukirke, at Copenhagen, there is a number of the masterpieces of Thorwaldsen; and among these none is more remarkable than the scene of the Last Supper, executed in marble bas-reliefs on one of the inner walls of the church. Conspicuous among the characters is the figure of Judas, the traitor, in whose face insincerity and treachery are written in lines easily read. The mere sight of this face will immediately awaken distrust and dislike in the spectator's mind; and at the same time. he is seized with wonder at the skill of the chisel, which ha[illegible] delineated the character of Judas. Cold, reserved, [illegible] sincerity has perfect expression in the face of him who [illegible] act of betraying his Master. I will offer another corroborati[illegible]tration: the admirer of German legendary lore is especially [illegible]ed by his visit in Munich to the Niebelungen-Hall, on the wa[illegible] which are the pictorial illustrations of the Niebelungen son[illegible] early epic poem of the Germans. As the old Greek had ha[illegible] Achilles, so the old Teuton had his Siegfried, whose arm in e[illegible] combat was invincible. Unfortunately, however, Siegfried [illegible] a treacherous rival, von Hagen, who killed him with the [illegible]b of a spear from behind, while Siegfried was stooping and drinking from a fountain of water. Treachery is most faithfully portrayed in the features of von Hagen; and though painted by another artist, his face is an accurate reproduction of Thorwaldsen's Judas. In fact, it is clear that insincerity has everywhere but one face. And to the coincidence mentioned, your augur can add another; for he has known a face which had been molded by the great artist Nature, whose possessor had won notoriety by his insincerity and treachery. This face might have served as the original of that of von Hagen in the pictorial hall of Munich, as well as that of Judas on the church wall at Copenhagen.

On the other hand numerous examples might be cited proving that sincerity stamps its image on the human face; and such image, when seen, never fails to awaken in those who see it, trust and confidence. Such faces in countless numbers were those of the true, good and brave who have devoted themselves to the unselfish work of relieving the ailments of suffering humanity. Enough has been said in praise of this virtue; let it be firmly interwoven in your moral nature, so that it will quickly remold

itself in feature and face, and let it be there associated with earnestness, since, through their union, these virtues strengthen each other.

The third angle of our horoscopic figure bears the inscription, Cheerfulness. To-morrow you enter a sphere, where, on every side you will meet the subjects of pain, agony, misery, wretchedness, sadness, distress, despondency and despair. Breaking hearts will there pour out their sorrow to you. Humanity, struggling in the waves of unutterable anguish, will reach out its arms towards you, begging for rescue. For, as Virgil led Dante through the dismal abodes of the dead and displayed to him every degree of suffering, from the mild to the indescribably terrible, so your calling must lead you through every circle of suffering, from that which is merely fancied to that which is so terrible that the pen of a Dante would be unable to depict it. The strong frame, hitherto so powerful that it seemed proof against disease and pain, will summon you to its side, and with childish plaint will entreat your aid; the cry of the sick infant, and the more pathetic one of its anxious mother will, anon, touch your ear; the piteous cry of helpless old age, which, through years, has lost almost every attribute of its former self, will also supplicate the aid of your art, and beg for the boon of a few more days: (one such once said to me, he would give me a fortune if I would prolong his life a year.) Such are the scenes of misery and such the acts of woe, of which you are to be the accustomed observers. In your ministration to the wants of this wretchedness, no more potent instrument can be brought than that of a cheerful mind. This is particularly true in the treatment of the chronic invalid, whose malady is constantly nourished by the habit of morbid introspection, and which may often be banished for hours by a few cheerful words skilfully spoken by the medical attendant: thus, cheerfulness, by a little address, pierces the darkness which beglooms the patient, and is able, for a time at least, to dispel the clouds which darken his sky. The laggard heart of despondency is thus made to pulsate with new vigor; and the sick one lapsing downwards, as he imagines, towards the grave, becomes inspired with new strength, and is made to retrace his steps towards health again. Thus a mental tonic is administered, vying in its action with the best chalybeate; and in its work it awakens resolution and courage, before which vanish dejection and fear.

In the most perilous occasion or dangerous emergency of life an act of self-poised cheerfulness has given great solace; and where the cheerful person was the one imperiled, it has been the means of his rescue. Cases illustrative are the following: When, in 1857, the ill-fated steamer, Central America, which went down in the Atlantic freighted with so many Californians, had sunken and left more than a hundred men floating in the waves, one brave man cried out, "Three cheers for the Central America." The effect, as a participant has narrated to me, was magical; the call was heartily responded to, and for a moment all quite forgot the watery grave which was yawning beneath and in a few hours afterward received the most of them. That brave man merited a better fate than befell him, for, not being distinguished in that mass of struggling men, his name has been lost; his act, however, lives and deserves a lasting place among deeds of valor. Another case to the point was that of a surgeon in the Union army, during the late war, who on a certain occasion, having dropped his scalpel and taken up a musket, was taken prisoner by the Southerners. The offense of a non-combatant caught using arms, according to military law, is punishable by death. The surgeon was tried by a court-martial and sentenced to be shot; yet, to the credit of those who held him a prisoner, he was offered opportunities of escape, but which his delicate sense of honor caused him to decline. In accordance with the sentence, a file of soldiers was detailed to shoot the prisoner. As the surgeon stood before his executioners, he saw that some of them were barefooted, when availing himself of the ready cheerfulness which was a prominent element in his nature, the surgeon kicked off his shoes, and throwing them towards the soldiers, remarked that he would present them to one of them, since where he was going he would not need them. These lucky, cheerful words won the hearts of those who stood ready to fire, and lowering their guns they allowed him to escape. This story was told me by the one who was the subject of it, and to-day he is a worthy member of our profession in St. Louis. As a few words, the outburst of a cheerful temperament, turned the intruments of death aside and saved the surgeon's life; so you, by the timely exercise of this quality, may sometimes turn aside the arrows of disease, or cause them to fall harmlessly at the feet of their intended victims.

Cheerfulness, though such a jewel itself, becomes coarse when

it degenerates into levity; nothing is more out of place than the latter in the sick room; more than once have I heard a loose joke add to the sufferer's pain and fill him with disgust for the jester. The sick man longs for encouragement and hope of an early release from his confinement. The careless joke may hamper the key which might, otherwise, have opened the doors of his prison. The patient's heart is athirst for a cup of enlivening inspiration; and for this invaluable restorative, he makes great and constant demands on his physician; to supply this the physician should have a perennial fountain of cheerfulness in his own breast. If, however, nature has been churlish to him in this endowment and to the sick room he carries his melancholy face and cheerless action, and deals out to his patients portions of his own personal woes, then the small demand for his professional services will soon give clear hints to such a physician that he erred in his choice of a profession. The sick man must have cheering hope; for this he pays; and if in its stead he receives the gloomy prognostics of a Cassandra, then he is cheated in both purse and body. Enough has been said to prove the good value of the virtue which stands third in our angled symbol of presages. Cultivate this quality, and if you fear that nature has not been generous in this gift to you, then enter not the household of human suffering where cheerful benevolence and not toxic melancholy has work to do; or, if you do enter this household, as a preliminary, delve more deeply into your heart, if perchance there may be found there some undiscovered fountain of cheerfulness.

The next virtue of which I catch a glimpse in the prophetic field is humbler and less brilliant than those already mentioned. This is Willingness to Work. Man is not disposed by nature to idleness, yet most men dislike continuous work; especially in the young do we find an element adverse to occupation in which there is constant sameness. Though busied, they desire frequent change. The great discipline of childhood consists in overcoming this desire for the ever changing and the ever new. To accomplish this, both the teacher and the taught have arduous labor; though the efforts of the teacher are often crowned with success, yet sometimes, his tasks are like the labor of the daughters of Danaus, who were condemned to fill with water buckets which had no bottom. But through diligent effort in youth, a habit and love of continuous occupation may be firmly planted

and when once so disciplined, the fortunate youth is most unhappy when his accustomed occupation is interrupted; to one so molded, constant employment brings the sweetest enjoyment. These are strange words to the idler and the loiterer, who are searching in every quarter for mutation and distraction. The disciplined son of continuous and regular labor is happy, and he adds to the happiness of those around him; he has reached the highest position attainable in human existence. But those who enroll themselves in the army of idlers and loiterers, who march in quest of diversion and distraction, will soon be captured by disappointment and misfortune; or, should they attempt escape by retreating, there is no rescue for them in that direction, for in starting they burnt their ships behind them. A millstone about the neck of such would do good service, both for them and the world.

For you, perhaps, this moral excursion was scarcely necessary, since I have learned that you are disciplined workers, and that the pleasant custom of labor is established in each of you. I hope, however, that the excursion has not been made in vain, and that though the habit may have been well planted, perhaps the fostering words I have spoken may cause it to take deeper root. I remember, too, that the ceremonies of this night mark a great change in the current of your work, both in character and direction. To-morrow you offer your services to the world, yet the world will not be in haste to accept these services, for, before doing so, the world for a time, will composedly scan, criticize, and at length, leisurely weigh you in its scales. Your position to the world is similar to one who has business with some high dignitary of State who, insolent in his office, at the time of the visitor's call, is reading his newspaper; the dignitary will not turn his face towards the visitor until he has finished his paragraph, and then he only does so condescendingly. Meantime, while the world is reading its paragraph and weighing you in its scales, how are you to be employed so that you will not lose the habit of work? This time may be valuably occupied as follows: The first thing you should do will be to read the numerous notes you have taken during your studies. The clinical history of the cases which you have studied in the hospital or dispensary, should be read and re-read until they are indelibly written in the "book and volume of your brain,"

whence as unerring guides they can be invoked for future use. With these histories you should become so familiar by rehearsal that they become enduring elements of your conscious self. Nothing is more unsatisfactory than to meet a practitioner in consultation whose knowledge in scattered, fragmentary incoherence, avails him nothing for practical use. As the bee which gathers crude sweetness from many flowers, carefully elaborates his materials before they become honey, so the knowledge which you have gathered from many sources must be carefully assimilated in your mind, before it can properly aid you in your professional work. This mental assimilation, consisting of correlation and union of the facts, which lie sundered in memory into one harmonious whole, is a work quite as important as was the acquisition of those facts. And in those days of probationary waiting, should the world through sympathy with you deign to entrust a few of its indigent sick to your care, diligently study such cases, and compare them with the types which during your studies, have been observed; and if the cases presented to you differ from any of the types which you have observed, then you should place them as near as possible to those you have seen; thus doing, as Celsus says, you will not err in your treatment.

As nutrient material, when consisting of a variety of things, best accomplishes its purpose, in like manner the understanding reaches its best development, when the mind is not always directed in one channel of thought. Hence, along with the review of your notes and the reading of a journal containing periscopic selections of current medical literature, excursions may be profitably made into the domain of science and literature. As books which may be usefully read, are Grote's History of Greece, Gibbon's Decline and Fall of the Roman Empire, Buckle's History of Civilization, and some of the leading plays of Shakespeare. And if you are fortunate enough to know and remember Greek and Latin, employ two or three hours every week in reading some choice selections in these languages. A few lines read in Homer and Thucydides, each week, will enable you to retain the Greek, the most wonderful tongue in which the human mind has ever voiced itself. In the Latin language, of which every medical student must know something, I commend Celsus as the most useful and interesting of classics. One finds in the work of Celsus an epitomized summary of the essentials of medicine, told in a

style of force and terseness which cannot be reached by any modern language. The Celsian quadrangle of *rubor et tumor cum calore et dolore*, tell more about inflammation than one often finds in a hundred pages of a modern writer on this subject. And likewise his few pages containing a review of the doctrines of the old sects in medicine, contain facts enough to make a modern octavo if they were presented in the dilute verbiage in which the modern writer too often dissolves his paucity of facts. And besides Celsus, Tacitus and Horace should have their half hours; in the former, more [illegible] lines can be found than exist in any other author, ancient or modern. A Welsh proverb says, "as honey flows from the honeycomb, so does music flow from the strings of the harp;" [illegible] of the lyre of Horace exude honey in its sweetness, [illegible] he varied measures of ode, carmen and satire, it can [illegible] the emotions of the human heart, whether of mirth, gaiety [illegible] lness, solemnity or sublimity. No wonder that Condorcet, [illegible] concealing himself to escape the threatening guillotine, [illegible] ght from his hiding-place to a friend's house and b [illegible] py of Horace. And if your linguistic acquisitions have [illegible] as should be the case, some of the modern tongues, then [illegible] ich and German you will find inexhaustible stores which offer their treasures to you, both in medicine and literature. Some one may say, why not read translations of works in other languages; that might, in a measure do, in the modern languages, but it will not do in respect to the ancient ones; no translator has yet been able to give the spirit and beauty of the writings of antiquity. Though the artificer's skill be ever so cunning, yet in his transferring of the gems of thought from their primitive setting to a new lingual casting, the jewels receive some flaw, and immediately lose some of their original lustre. The thoughts of Horace, as rendered into our language by the able English translator, Smart, seem mutilated as birds which have been stripped of their plumes. To accomplish the task which I have sketched out for you, the work can only be done by those who are willing to labor, and who work systematically; by those in whom work has become an immutable habit. As can be inferred from what has been said this habit is not the product of spontaneous generation; the germ of it must be planted, and the rising plant must be shapen with wisdom and foresight; it must develop with depth and root and

breadth of base; thus formed, like our Sequoia, it will not be disturbed by storm or time, but lasting coeval with its possessor through the many-sided enjoyments which it brings, it will repay many times, toil spent in its planting and culture.

We have at length reached the last angle of the figure which has given so many oracular hints for your guidance in future; and this bears the simple inscription, Self-Denial; in the idea of self-denial is also contained that of self-control and discipline of the temper and passions. If man be compared with the lower animals, it is seen that in the latter self-gratification is the ruling principle of their lives, while in the former, the aims and objects of human cultivation are the domination of the selfishness naturally innate in man. Man's appetites and passions, excellent as servants, if admitted to mastery, at once become pitiless tyrants. In art, science, and all the means which contribute to human comfort, the century has made admirable advancement; yet in all our vaunted progress and in the boasted inventions and discoveries of recent years, no means have been found which will release the shackles which ungoverned passion places on its victim. Terrible is the burning heat of him whose consuming fever will seek your professional aid; and the appeal to you will not be in vain, for the recent advance in medicine has given you the means to reduce the devouring heat of that fever, but the thirst which the uncontrolled indulgence in intoxicants finally kindles is unquenchable; no known antipyretic, moral or medical, can repress or control it. In the entire range of chemical elements and physical agents composing the universe, nothing can be found from which such a remedy can be made. Yet the prophylactic remedy is common enough; it is in the possession of every youth; it is within the keeping of each of you; it is contained in the virtue self-control and in the discipline of your appetites. Let this work now be done and thoroughly done; if you fail to do so, then farewell hope, farewell honor, farewell ambition, for with your own hand you will pluck from the book of life the page on which your name is written and cast it into the waste-basket of oblivion.

Most students of medicine are poor and pursue their studies under great difficulties, and such well know the full value of every cent, dime and dollar which they possess. Yet to you, to whom these words apply, such privation has not been without its advantages. For the stony path of self-abnegation which you have

been forced to travel has hardened and strengthened your feet for the coming journey. The bitter cup of need which has often pressed your lip like a lasting tonic will give you enduring strength for the contests in the arena of life. With such training the combatant always proves a victor. Cameron, the wealthy statesman of Pennsylvania, a few years ago, said: "My son starts in life with many advantages which I did not have; but I had one which he did not have, and that was poverty." Said the great Goethe: "He who never sat weeping on his couch and never ate his bread with tears, he knows you not, ye heavenly powers." I, therefore, especially congratulate you who have been the subjects of this experience, and who have not yet wholly finished with it, for your well-trained arms, disciplined by struggles with adverse fortune, will surely gain the prizes led to the best work.

After the period of probation een finished, through which, as before said, each one of you pass, the world will accept you in its confidence; but, even the work of self-abnegation will have ample room for the world will then stand before you with a full and ready to shower bounteous gifts on you. One of the often the larger one, is that of bribery and corruption, and offers to recompense you generously if you will aid it in accomplishing its dishonorable purposes. Among such purposes may be mentioned the slaying of the unborn, the promotion of suits of damages against corporations and individuals for feigned injuries, the creation and treatment of imaginary disease, and other dishonest action in which the medical man may become the deciding factor. When the siren of temptation salutes your ears with the music of gold in the purse of corruption, let Self-denial bind you to the mast of unswerving rectitude, and like Ulysses of old, make safe your escape; thus doing, the world will double its gifts to you from the other purse which contains ample rewards for honest dealing; and these rewards will be sullied by none of the shame and regrets which, like an inseparable shadow, ever follow gold from the purse of dishonor.

In antiquity medicine had shrines and altars erected to its tutelary divinities. At the foot of the Acropolis in Athens, I was shown where once stood a temple of Æsculapius: on the altar in this temple, Socrates, as he was on the eve of swallowing the fatal cup of aconite, directed his friend to make a sacrifice. Within the domain of the profession which you are entering,

there stands also an altar on which you will make many sacrifices. To this fane you will bring as gifts hours of night consumed in anxious watching while other men are reposing in sleep; on this altar you must sacrifice days of unpaid-for labor; loss of personal comfort and ease must furnish unceasing contributions to keep alive the fires on that altar, and anon, the brightest flames here, will be kindled at your expense by unfair and unjust criticism of your professional work. This altar which will demand incessant offerings from you is constructed of the costly materials of self-denial; on it is inscribed the word *Duty*. At the foot of this altar you have appeared to-night to make your final vows, vows in which self is laid aside and service to human suffering is everlastingly promised.

I have finished my work of interpreting the inscriptions of the prophetic symbols which should serve for your guidance in professional life. I am glad that I have found so much trustworthy instruction in the augur's field; let the figure found there, ablaze, as it is, with monitory jewels on every side, have the first place in the hall of memory; where, whithersoever you may turn, its radiant beams may strike your mental eye. Truer than the mariner's needle, these rules without deviation or error will guide you towards the star of success: for so surely as you are governed by them, against your name in the chronicles of human action no syllable will ever be written by the hand of Failure. Now, if with the further license of the seer, I turn aside the veil which conceals the coming years for a moment, both ear and eye are delighted: for, in the near hereafter, I hear the world greeting you with salutations of applause for work well done; and I see it crowning you with laurels gathered by the sister virtues to whose tutelary care I have commended you; and with the enthusiasm which this hour permits, if I look still farther down the vistas of coming time, afar off I descry other alumni who, though trained by another generation of teachers, yet as the children of the same Alma Mater are akin to you; I see that they, too, are victors, and from the Genius of Success they are receiving coveted prizes woven by Earnestness, Sincerity and their sister virtues.

Human memory has its limitations, and we scarcely have a right to chide it for lessening its burden by dropping its distant links in the past; and it is probable that sharing the

common fate of all things, the footsteps of coming years will obliterate the individuality of the work of which you now are witnesses; yet the work itself will not perish. Cooper Medical College, of which this occasion is the complementary and final dedication, through its recent endowments is insured of perpetuity, and of a lasting place in the diadem of learned institutions which adorn the brow of California. And to you, the lesson of self-denial so enjoined by precept to-night, is in its long history, still more forcibly taught by example, since over the portals of this edifice one seeks in vain for the donor's name.

The fleeting pageant of this hour has nearly ended; its counsels, its greeting, its joy, and perhaps I may add its sadness, will soon have departed and passed into the vanishing echoes of memory; a short time ago you stood before me and received scrolls on which is recorded testimony of your attainments and qualifications; you now stand before a greater personage, Futurity, who has gifts for you of occasion, opportunity and the priceless privilege of living; she reaches, also, to each of you another scroll on which no word has been written, but on which each of you must record the actions of his life; do your writing well and faultlessly, for no erasure or change there is ever permitted; very precious is the material of which it is composed; so precious, indeed, that in the great treasury of nature time finds but one such scroll for each human being.

Eight years ago in an address to the graduating students of this College, I conducted the class in an imagined excursion to the Sierras, in which the eastern shore of Lake Tahoe was visited, and from objects in nature seen there, materials for a valedictory address were drawn; that occasion was a momentous one in the history of this institution, since the original building of Cooper Medical College was just completed and was then donated by me for the purposes of medical education. The present time is a no less important one, since it is the occasion of the completion of an addition to the original building, which greatly increases the capacity of the former one, and has been constructed at a cost of a greater sum of money. This structure, which, in its space and internal arrangements is equal to any edifice of the kind in the old or new world, has been built by me, wholly, through means earned in my profession; those means have not been derived from bequests, inheritance, or trust from the one whose name the

institution bears, or from anyone else. I make this public declaration since the contrary has been stated. Any doubt upon this matter will be silenced by a reference to the archives of the Probate Court of San Francisco. It is certain that of the authors of this falsehood, the Virgilian half-line,

Sic vos non vobis * * * * * *

would never have been written; since so far from being the agents of impersonal work, they cannot concede its possibility in others.

It is a source of great satisfaction to the friends of Cooper Medical College, that since the original building was erected the school has been successful beyond anticipation, the attendance having doubled in numbers. And this is due to the excellent work which has been done by the several professors; they have done their parts with punctuality, industry and faithful earnestness; they have been free from jealousy and forgetful of self; in brief, they have done their duty and still intend to do it. This work has been recognized by the Royal College of Surgeons of England, the highest English-speaking authority; this learned body has recently given Cooper Medical College full recognition; an honor shared only by a few medical schools on this continent.

The completion of the work which establishes Cooper Medical College on a sure basis has been the chief object of my life; it has been the animating inspiration of twenty-five years of professional labor.

Completed as the edifice now is, it is conspicuous for its architectural beauty in the far distance: as the Parthenon once loomed up on the Acropolis to the voyager on the Ægean sea, so this edifice fixes the vision of him, who entering our Golden Gate gazes on our many-hilled city; and as Minerva's temple and statue awakened rapture in the beholding Athenian's heart, so this fane must become a precious image in the hearts of those who, in the future, shall here be disciplined for their mission to suffering humanity.

To medical science, which is inseparably linked to all other sciences, and to the healing art, the greatest of all arts, this property is now given by me as a perpetual dedication.

AN ADDRESS

Delivered on the occasion of the Unveiling of the Bust of Dr. L. C. Lane, at Cooper Medical College, Nov. 13, 1890.

By Edward Robeson Taylor.

Eight years ago, with appropriate word, there was dedicated to the cause of Medicine the college edifice so well known to us all, and in which has been successfully carried on by Cooper Medical College the work of medical instruction. In fact, so successful has been that work, and so promising the future in connection with it, that the same self-sacrificing hand, which eight years ago reared the original structure, has now made an addition to it of such large proportions as to double its capacity. The college structure proper, as it now stands completed, whether considered from the standpoint of architectural beauty, or from the standpoint of adaptedness to purpose, is not surpassed by any medical college building in America, and indeed there is perhaps but one which can be said, in these respects, to at all equal it. And in its appointments and appliances for the work to which it is destined, the future will not be far distant which will see it in that regard the rival of the very best our country can boast. In the new annex the work of practical chemistry will be much extended by increased laboratory facilities, and physiology, pathology and bacteriology will have an entire floor devoted to their practical study. This annex was indeed a necessity. The classes here in attendance on medical instruction had become so large, that there was no room in the original building of sufficient dimensions to comfortably accommodate them, short of the hall used for the winter course of public lectures; and large as the original building was, it was yet incommensurate to that ever widening stream of instruction which must necessarily flow through such an institution as Cooper College. And so it is, that the original public lecture hall has been turned over to the students, and the public accommodated instead in the commodious and beautiful hall where we are now assembled.

But not only has this institution increased its facilities, but it has as well increased the quantity and quality of its work. The members of the Faculty, who here devote themselves to the cause of medical education, are not laggards who perfunctorily run the same round year after year, content with present intellectual ac-

quisition, and wishing for nothing beyond a comfortable income; but, on the contrary, they do their work for sheer love of it, and in the spirit of the purest emulation; they zealously keep themselves abreast of the science and learning of their day, and with undiminished ardor labor with those who here flock for instruction at their hands. Some of them are original investigators and authors of acknowledged authority; while not a year passes but you shall see some one of these devoted men lighting his torch anew at some great medical centre in Europe, that thereby the illumination of his instruction may not become weak or dim. And, indeed, one of them was not an inconspicuous member of the International Medical Congress, whose session at Berlin was by far the most notable event which occurred in that city during the present year—presided over, as it was, by the incomparable Virchow.

In these halls Practice walks hand in hand with Theory. The student is not turned out, diploma in hand, knowing nothing but that which he has learned from lectures in the lecture hall, and being compelled to acquire the practical part of his profession after he shall have left college. On the contrary, he is taught at the bedside as well, and in the wards of the City and County Hospital receives clinical instruction in both medicine and surgery, while here at the College he receives a like training of the most useful character, there having been treated at this institution during the past year no less than two thousand cases, each one of which was personally brought to the attention of the students in attendance. But the student is not alone taught clinically by lectures, for the seniors have cases put in their charge under appropriate supervision and criticism, so that by the time they handle their much coveted diploma, they know something of what it is to be a doctor. So complete is this method, that each case in charge of a senior is diagnosticated and treated by him in the presence of the others of his class, and in the presence as well of the clinical instructor, who comments, as occasion requires, upon the case and its treatment by the student, and intervenes, when necessary, to hold that treatment to its proper course.

In addition to the student life which animates these halls, there is a feature which is of quite singular distinction—that of the "*Lane Lectures.*" These lectures are delivered every winter in the public hall of this College, at intervals of two weeks, by the

various members of the Faculty, and treat, in a popular manner, of those subjects which deal with the structure, environment, and health of the human body. They have covered a wide range, and have been attended by such large audiences, as at times to render the original hall too small for the attendance. These lectures will be continued every winter in the hall where we are now assembled, and will doubtless, in the future, as in the past, be kept up to the highest standard. In fact, their perpetuity has been provided for by the founder of this College, who in this, no less than in his strictly professional benefactions, has combined his love for medicine and humanity with such wisdom and resource, as to illustrate anew the versatility of his superabundant nature.

This institution is so flourishing, and is attracting to it so much of the best in student life which seeks medicine as an outlet for its energies, that we may reasonably anticipate not only the graduation from its halls of men and women well equipped for the every day round of practice, but men and women as well of original research, who will open up fresh paths, and by their connection with their Alma Mater, add new pearls to her crown of glory. This thought must be strongly pressed upon us all, as we scan the appearance of the graduating class now before us. From such as these there will surely arise, from time to time, some son or daughter of this nourishing mother, whose hand shall pluck out the heart of more than one mystery.

Of course, a college like that of Cooper has a history. Being the valuable thing it is, it must have grown—such things never can be manufactured; invariably they grow from very small beginnings. And so has this institution. Its origin lies back of the sixties in the private medical instruction given by Dr. Cooper—that eminent man whose name this College bears, and which name is inextricably linked with that of Lane, is registered with his on the beadroll of Medicine, there to remain indelibly forever. This private instruction of Dr. Cooper's led to his being joined by others, among these coadjutors being his nephew, Dr. Lane. These men were nearly all enthusiasts, and until internal dissention unfortunately severed their relations, labored with a success that sweetened many an hour of professional toil. But the true men of the school had that within them which would not let them give up the work; and hence it was, that the school, after a suspension of a few years, took on renewed life, affiliating, under its

renaissance, with the University of the Pacific, and maintaining under that affiliation constantly increasing vigor. Some of the best known physicians in our city were graduated from it, the Dean of this College being one of its most honored alumni. When Cooper Medical College was founded, the Faculty of the Medical Department of the University of the Pacific transferred their allegiance to it, and thus it is that Cooper College stands in line of direct succession to the first medical school ever organized west of the Rocky Mountains. Much could be said by way of detail in regard to all this history, if time sufficed, for it is rich to repletion in those things which go to make up all that is of any real worth in this selfish life of ours.

The work this College is doing and promises to do, has naturally drawn to itself the thought of some observant ones, who are moved to travel beyond the boundaries of mere material gain in search of the higher things of life; and pecuniary aid from such, for the future advancement of the interests of the College may confidently be hoped for. Indeed, fruition in this respect has already been reached in the case of one person—Capt. James M. McDonald. This well-known citizen, whom to know is to honor and respect, of his own motion, and without even hint or suggestion from any one, has, within a year, bought and denoted to the College for college purposes, the fifty vara lot adjoining the College premises on the north—a noble benefaction most nobly bestowed.

And Dr. Lane himself, not content with his former benefactions to the College in the shape of lands and buildings, has, in addition, made a deed of gift to the College of the two fifty vara lots which adjoin the College premises on the east. Thus, this corporation, devoted solely to medical instruction, owns, by free gift, a piece of land two hundred and seventy-five feet square, fronting on three important streets, and a college edifice architecturally imposing and beautiful, and possessing every present facility and resource for a complete medical education. And this has been done so silently, so unobstrusively, so far removed from the trumpetings of the newspapers, that this new building seems almost like an Aladdin's Palace, risen in a night.

And all this is the work, substantially, of one man—Levi Cooper Lane, who, for twenty-five years, untiringly, unswervingly, and with every energy of thought and action, and despite

every temptation and obstacle, has pursued this one aim—this supreme object of his life. This man helped to lay the very foundation stones of medical education in this State, and from that time to this, he has pauselessly continued at his work, until we see this mighty architectural tree now bending above us, and beneath whose branches thousands of students for many generations yet to come are destined to find intellectual nourishment to the healing of the nations. He has never sadly "mused and said," with Browning's Paracelsus:

> "I had a noble purpose, and the strength
> To compass it; but I have stopped half-way,
> And wrongly given the first fruits of my toil
> To objects little worthy of the gift."

No, but having the noble purpose and the strength to compass it, without stop, without pause, he has pursued that purpose to a marvelous achievement, and has not only given the first fruits of his toil, but the fruits of his years of toil, to one of the noblest objects which can command the attention of man.

This life work of our beloved friend may, without indelicate or excessive laudation, be truly called sublime. Take its worthiness, its undeviating constancy, its singleness of purpose, its unselfishness, its heart-abundance, its exceeding modesty, the expenditure made by the donor in proportion to his resources, and then finally consider his wisdom and practical good sense in matter of detail, together with the great success achieved, and it stands without parallel in the history of medical benefaction. Indeed, in the combination of its qualities, it may well challenge comparison with any benefaction of which we have knowledge. But more than this, we have not here a man grown rich by speculation, who throws to public charity a few millions, for ease of his soul as it were; but we have instead, a man toiling laboriously at his profession, year in and year out, and carefully laying away his professional gains, until the accumulated store is sufficient to meet the one great desire of his heart, and then appropriating that store, as we now see him, for the satisfaction of that desire—to the extent in money value of at least a quarter of a million dollars. Ah! precious indeed is such benefaction, for every stone in this great building, aye, every inch of ground covered by the donor's gifts is lovingly bedewed with the sweat of professional labor. Had he inherited this wealth so abundantly bestowed, or had he gath-

ered it in the field of some fortunate enterprise, we would have taken it approvingly and have worthily honored the donor; but it would not have come to us as it has now come. It would have lacked something which it now has—that soul-satisfying essence which makes the gift not only unique of its kind, but precious beyond all price. And what a harmony of parts the whole discloses! How the life work of the man, the results of that work in material gain, and the crystallization of those results in the cause of medical education, harmonize with each other, and satisfy not only the ethical, but the esthetic sense, as well. And how entirely fitting it is, that all this should have been brought by him who is concededly at the head of his profession in this State, and who justly stands at the fore-front of all that is best in medicine.

In the presence of these reflections, well may we say with Festus, as he soliloquizes by the bedside of his dear, dying friend Paracelsus:

> "Ay, here!
> Here is earth's noblest, nobly garlanded—
> Her bravest champion with his well-won prize—
> Her best achievement, her sublime amends
> For countless generations fleeting past
> And followed by no trace—the creature god
> She instances where angels would dispute
> The title of her brood to rank with them—
> Angels, this is our angel! Those bright forms
> We clothe with purple, crown and call to thrones,
> Are human, but not his: those are but men
> Whom other men press round and kneel before;
> Those palaces are dwelt in by mankind;
> Higher provision is for him to seek
> Amid our pomps and glories; see it here!"

And she, who has stood at the side of our friend these many years with every aid that sympathetic encouragement could give, so presses upon my thought in connection with him on this occasion, that my remarks would be far incompleter than they are, without at least some mention of her name. This man has labored beyond what we may know; he has had his many discouragements; he has not always been well; there were times, doubtless, when the end seemed beyond all hope of achievement; but there never was a time when he failed of helpful sympathy and encouragement from her, whose interest in his life-work seems to be as

great as his own; and never a time when with her, the College was not first, and all things else second.

Ah, great, indeed, is the glory of woman! How wondrous and of what deep significance is that which Goethe so profoundly and poetically characterizes in one word of his own coinage as *Ewig-Weibliche!* Dominated by this, the essential element of her being, what sacrifices woman makes in the secluded groves of her appointed work; but from the altar of these sacrifices what grateful, love-compelling incense ascends to Heaven! What salvation issues thence for the perpetuity and advancement of the race! As George Frederic Parsons so eloquently says in his introduction to Balzac's "Seraphita," this *Ewig-Weibliche* of Gotehe "is the force which *zieht uns hinan*, which lifts us toward higher spheres and inspires us with nobler aims; which on the physical plane keeps before our dull and earth-drawn eyes constant examples of self-sacrifice, altruism, patience, compassion, and love stronger than death; which is most effective in subduing and extirpating the sordid animal tendencies and inclinations from our nature, and in substituting impulses and aspirations which may give us foothold in the path that leads toward a life better worth living."

Ah, great, indeed, let it here be repeated, is the glory of woman! With what ineffable refulgence she shines when we view her as illuminated by the genius of Goethe and Balzac! Fame writes not her name on bronze and marble, but the deathless names which are there written have blossomed in her heart. Pardon this digression, if digression it seems; but with such a text more might well have been said rather than less.

The Faculty of Cooper Medical College have, more than others as was natural, appreciated at their high value the great services rendered to medicine by their head. They have been his worthy and zealous coadjutors for years, and no word of appreciation to him is richer or weightier than theirs. But they have deemed it altogether fitting and appropriate to go beyond mere words, and to set up in this hall a lasting memorial to the friend they love to honor. To that end they have had his bust cut in the purest Carrara marble by that celebrated sculptor, Rudolph Maison, of Munich. Much of its success is due to the kindly supervision of Toby E. Rosenthal, as the sculptor had never seen the original but was guided only by photographs. The bust has been appro-

priately mounted upon a colored marble pedestal, and placed within a niche in this lecture hall, where it is to remain forever, the perpetual embodiment of the guardian spirit of this place. Upon behalf of the Faculty, who have deputed me to perform this kindly office, it gives me one of the greatest pleasures of my life to speak for them on this deeply interesting occasion, and in their name to formally present this truly beautiful work of art to Cooper Medical College, with the hope that "Time's eflacing finger" may never mar its pristine beauty and purity. The artist seems to have been inspired by his subject, for he has here produced the living, breathing man in his habit as he lives, and with such power and delicacy as to leave nothing further to be desired. Art here joins hands lovingly and rejoicingly with Science and Beneficence, to crown with imperishable laurel this glorious son of Medicine. And may we not venture to add our prayers that he who has done those things of which we have spoken so inadequately to their importance, may still maintain his present vigor for many years yet to come, so that all his great projects for medical education may in his lifetime be so far realized, as that his last gaze on earth may rest on no single unfinished fragment, but on a rounded and harmonious whole, in which Medicine shall have the noblest habitation our country has ever seen. And as we unveil this marble, and you look for the first time upon the work which Art has so perfectly achieved, there is no one here present but must deeply feel, that marble never served a nobler purpose and never shone with a richer lustre; but while contemplating the sculptured form which shall thus be transmitted to future generations, our thought cannot but rise from the perishable stone to the character and life work of the man which may not perish but shall endure forevermore.

ADDRESSES

ELIVERED ON THE OCCASION OF THE COMMENCEMENT EXERCISES OF COOPER MEDICAL COLLEGE,

NOV. 13, 1890.

BY

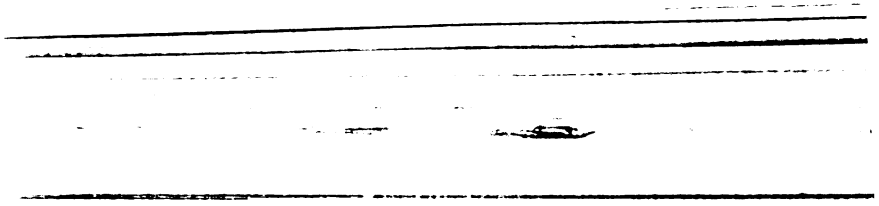
LEVI C. LANE,

A. M., M. D., (BERLIN), M. R. C. S. ENG., L. L. D., PROFESSOR OF SURGERY;

AND BY

EDWARD R. TAYLOR.

SAN FRANCISCO:
GOODWIN & TAYLOR, PRINTERS,
521 CLAY STREET.



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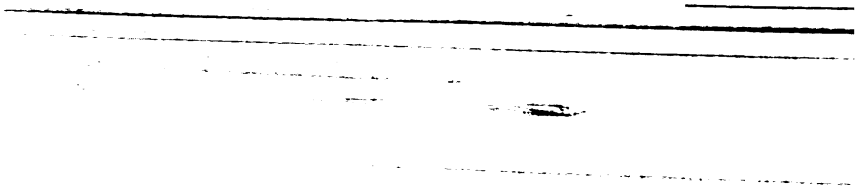
NULLUS ARGENTO COLOR EST, NISI TEMPERATO SPLENDEAT USU. — *HORACE.*

NON QUIA INTERCEDENDUM PUTEM IMAGINIBUS QUAE MARMORE AUT AERE FINGUNTUR: SED UT VULTUS HOMINUM ITA SIMULACRA VULTUS IMBECILLA AC MORTALIA SUNT FORMA MENTIS AETERNA, QUAM TENERE ET EXPRIMERE NON PER ALIENAM MATERIAM ET ARTEM, SED TUIS IPSE MORIBUS POSSIS. — *TACITUS.*



ADDRESS

To the Graduating Class of Cooper Medical College, Delivered November 13th, 1890, by Levi Cooper Lane, A. M., M. D., (Berlin), M. R. C. S. Eng., L. L. D., Professor of Surgery.

Members of the Graduating Class of
Cooper Medical College:

Ladies and Gentlemen:

Among recollections most valued by me, is that of a visit to Thomas Carlyle: he was in his eightieth year, and referring to this, he spoke plaintively of his advanced age, and quoting Ossian, said, "Age is dark and unlovely." Though time had made a ruin of his body, and his once clear, blue eye had become dry and lustreless, still in his remarkable conversational powers his intellect showed no impairment: among the glittering thoughts which fell from his lips, the following I most prized: "Yours is the greatest of all human professions; indeed, mankind would be quite as well off if the other professions were put to bed."

For three years, Cooper Medical College, your Alma Mater, has trained you with a teacher's arbitrary strictness, yet combined with affectionate tenderness: to-night she gives you the legal passports which admit you to that profession declared so great by Carlyle. You have long

looked hopefully towards this hour, for it completes the discipline for a life's labor in the field of humanity. From your course of studies you have come forth victors: the spectre, Failure, which, in fearful outline, has so often hovered in your horizon, and chilled your breasts with doubtful apprehensions, has vanished forever. The twelve sentries who guard the honors of your Alma Mater, have rigidly challenged you, and have failed to find cause to deny you admission. You are permitted to bear the palms, since you have proved yourselves worthy of them. Unceasing vigilance guards the prizes of this institution; and those who win them must be worthy of them.

The lover of ancient history who visits modern Rome will find much of antiquity to awaken his interest: and on a former occasion, when a pilgrim to that classic soil, the warmest enthusiasm was awakened in my breast when I touched the ground on which the ancient augur stood, and, by means of his arts of divination, he looked into futurity, and caught glimpses of coming events. In the field before him he placed his horoscope, and divided this into a right and left quarter, and according as birds were caught sight of on the left or right side, so the soothsayers saw portents of good, evil, glory, shame, success or misfortune. As said, this field and its incidents of olden memory awakened in me intense interest; on its far off limits I watched the flight of a bird, which, two thousand years ago, might have been the signal for starting on some military expedition or for the decision of some important matter of State: as the bird vanished

in a distant wood, the current of my thoughts was broken, for the sight of the dome of St. Peter's church reminded me that the occupation of the augur had ceased, the ancient religion was a thing of the past, and that olden Rome had yielded her imperial power to her northern subjects. If deep interest was awakened by that famous plain of ancient augury, a far greater enthusiasm is kindled in me as I recall the fact that I now stand on the verge of a field, which is as rich in the secrets and unborn events of coming years as ever lay before the augur of olden time.

The ancient seer couched his prophetic utterances in equivocal terms, a license which his pliant language permitted; for example, the famous Delphic oracle could be truthfully interpreted either for or against victory. But the omens which appear in the horoscope of your future are very different, since they are involved in no ambiguity; their interpreter has no need of uncertain terms to conceal their import, since they are obvious, clear and self-evident. On the left, a quarter in which the old diviner sought for omens of good fortune, success and victory, instead of a plumed object, I observe a star-like pentagon, at each illumined angle of which stands an inscription in plainly written characters: these inscriptions, glittering as if traced in light, read as follows: Earnestness, Sincerity, Cheerfulness, Willingness to Work and Self-denial.

Freed from the embarassments which shackled the ancient seer, I proceed, at once, to my task, and will commence with Earnestness, since I find it at the sum-

LAKE LINDEN

mit-angle of the pentagon and in largeness of character and illumination it is more conspicuous than any of the others. All great reformers who have stepped outside of the domain of accepted doctrines, whether in religion or science, have obtained a following through great earnestness: sustained by this virtue, such men have been steady in action, unwavering under opposition, unmoved by derision, faithful to convictions and undisturbed by danger. Such men in battle are found in the fiercest of the fight, animating their followers by example and word to stand firm and never give an inch. Even in a champion of error, such a quality commands admiration and attracts a following. This quality enabled Mohammed to convert, first his wife, then his brethren, and later, all Arabia, to the belief that he was a divine envoy; and thus one man was able to originate and propagate a new religion over a large portion of the earth. The Prophet was almost equaled by Peter the Hermit, whose wild earnestness awakened throughout Western Europe both peasant and prince to unite in a common expedition for the recovery of the Holy Sepulchre: a war in its strange and romantic character without analogue in human history. This was the instrument with which Cromwell cut his way through all ranks to the throne of England; and though he refused to ascend this, yet he grasped and wielded the sceptre at its side, with more force than any monarch. This commanding quality in our own Washington, won the hearts of his soldiers and enabled him to lead them through hunger, cold and untold hardships. It was this quality, woven ineffacebly into the texture of

the Pioneers of California which prompted them to leave their homes and meet discomfort and danger in every form; and after uncounted hardships to build up for us this wondrous home in the far West. These men were intensely earnest men. Countless examples of this virtue have been exhibited in the history of our profession; a mere citation of those meritorious names would occupy the remainder of this hour; it would compel me to omit the other inscriptions of our pentagon: this I cannot afford to do, and so I must limit myself to the mention of only two or three names. No fitter one do I find than that of Edward Jenner, whose earnest and untiring work in the study of vaccination, has given the world the means of guarding itself against small-pox, one of the foulest and most terrible of human diseases.

In an autograph letter which I have the good fortune to possess, Jenner gives a glimpse of some of the trials through which he passed before his discovery was accepted by the world: alluding to an investigation which was being made by the Royal College of Physicians, of the subject of vaccination, he says: "This inquiry will lay low all these troublesome ghosts which have so long haunted the metropolis with their *ox-faces* and dismal hootings against vaccination." In this he thrusts a gibe at the ridiculous objection which was urged against vaccination, that in time it would convert the human face into the likeness of that of the ox. And further he refers with great pride to the recognition of his discovery by the King of Spain. Little did Jenner then see, that when contemporary malice and envy had expired, he him-

self would be enthroned among the greatest benefactors of humanity, and wear a crown less mutable than that of Spain, which has since been the sport of political change, and once disappeared for a time in the vortex of popular revolution: Jenner's crown is more durable than one of gold, since it is composed of gratitude woven by hands which, through his discovery, have been protected from being marred by the spotted serpent which, before Jenner's time, was lurking in the pathway of every human being.

Another example of what an earnest purpose can accomplish is that of Lister, who has justly won for himself the title of Great Reformer in modern surgery. In the early announcement of his doctrine Lister, like Jenner, met with intense opposition and even ridicule. I recall reading in a leading English journal a mention of him as the fanatic of the North, who was endeavoring to charm away inflammation by doing his operations in mists and vapor. Arrows tipped with epigrammatic mockery, for a time fell quickly around him from every side. To the followers of the old modes, so abrupt a a change could not be otherwise than painful. The greatly modest but equally earnest man continued his work, and established the doctrine of immense value to mankind, that inflammation, once so fatal in any species of wounds, can, with certain precautionary procedures, be avoided or safely controlled. Lister has triumphed, and his name has taken place among the great benefactors of humanity. Like Faraday his name has been assigned a place in all modern languages; and in ours Lis-

terism will endure coeval with Faradism. And even should our race, with its wonted ingratitude, forget his name, yet his good work is assured of perpetual continuance in the years which it will add to human existence; and from the heart of the wounded man whose pains are reduced to easy tolerance, the incense of gratitude will constantly ascend, though it be to an unknown benefactor.

In every place and position of life, earnestness commands attention; nay more, it becomes the object of reverent admiration, and in their admiration men have chosen it as a proper name. The hardy Teuton, whose military achievements recently placed him at the front of Europe, finds no fitter, no nobler name for his child than Ernest.

Earnestness coupled with genius insures supremacy to the fortunate possessor; when combined with mediocrity it commands respect, and when united to dullness it exempts from contempt. Hence viewed from every side, to this quality must be conceded the rank of noble among human virtues; and therefore, in words clear and prominent, in the heart of each of you who hopes for success, should be written the resolve, ever to be earnest. Such a resolve carried into action will give you a commanding power in the exercise of your profession; by means of it you will kindle new life in the faint hearts of those who shall appeal to you for relief from pain, depression and sorrow. In the perilous voyage through the unfathomed sea of disease, across which you are to serve as guides to unfortunate travelers, this quality will enable you to

safely manage the helm and rescue from death the precious freight entrusted to your charge.

In our five-sided oracular figure, next to earnestness lies the angle bearing the inscription, sincerity; and although things which have been said of the former may be spoken of sincerity, yet there is so much difference between them that it can be said that one may be earnest and not sincere; still no person can be sincere without being earnest. To illustrate this, a man may be earnest in falsehood and hence he is insincere; but if he be sincere in his profession of a belief, thence must he be earnest; and hence, as a deduction, earnestness to be of value must be linked to sincerity. The word sincere, when traced to its primitive origin, means unmixed, whence by an easy transition, the idea of purity is reached; no bad addition to the modern meaning of sincerity.

Sincerity always enforces respect, even though it be met with in one who who radically differs from us in opinion. In common phrase the sincere man says what he means and means what he says; thus, paraphrased, sincerity is nearly akin to truth. Metals increase in value in proportion to their scarceness; thus uranium and platinum far exceed gold in value: in like manner the rarity of sincerity increases the world's appreciation of it. Fortunately, unlike uranium, it is not so scarce as to nearly exempt it from common use; and wherever found, it instantly receives the tribute of respect. Very differently do we listen to the utterances of the sincere of and the insincere man; those of the latter are despised even by the insincere listener. The statements of a sin-

cere man always command our attention; and if they are made concerning a scientific subject, with which we are are not familiar, they will probably be accepted and added as facts to our stock of common knowledge; statements, however, of the insincere man, are unwillingly listened to, and we hasten to forget them. The place of sincerity, whether in a friend or an enemy, is clearly known to us; while insincerity figures in the equation of life as the unknown and indeterminate x, y and z: surd quantities baffling final solution. Encke, the astronomer, from whom a comet is named, once delivered a lecture to which I had the privilege of listening, in which he dwelt upon the means of correcting, or allowing for errors made in mathematical calculations. To do this, he cast dice from the usual box on the desk before him, and having noted the numbers which fell uppermost in a number of throws, from these simple elements, born of chance, he constructed a corrective rule which may be used to eliminate the mistakes which may be made in a long calculation. No lecture which I have heard ever awakened in me more interest than did that of the aged astronomer, in which the summit of human wisdom was gained, where the fallible man forms rules by which he plucks fallibility from his mental acts and the wished for stage of perfection is reached. The old savant in his work of reaching so grand an end by a path so humble, seemed another Prometheus, bringing from heaven a spark of divine knowledge in a simple reed. But no Encke, endowed though he may be with superhuman sapience, utilizing the doctrine of probabilities, can ever

formulate a rule which will enable us to distinguish the true from the false in the utterances of insincerity: good and evil are there so intimately alloyed as to be inseparable. Such alloy, unfortunately, occurs in the utterances and publications of some medical men, who, to gain unmerited notice, disguise their insincerity and falsehood in the seductive dress of plausibility; for example, such men announce unusually fortunate results hitherto unattained in their special province of work, and thus they acquire an unearned reputation for inventive power or unusual skill: to prevent such perversion of fact seems to baffle all effort, and the only hope of remedy is in the philosophic reflection that the selective and conservative power of evolution is unrestingly at work, and that, in the alembic of unlimited time, this agency is tirelessly separating the eternal verities from the dross of untruth.

In the material interchange and exchange which, between well men, occur in infinite variety, insincerity is an occasional factor; and business men, who belong to the school of expediency, claim that it is unavoidable; but in the society of the sick where you are to be busied, insincerity is singularly out of place. The victims of pain and sickness demand and look for sincerity in those from whom they expect relief from their misfortunes. Man can tolerate some deception and misrepresentation in the purchase of house, land or furniture; loss there may be tolerated, but if he be cheated in regard to his health, the injury is irreparable. I remember no more eloquent words than were once said to me by a poor Italian woman whose child was fatally sick; said she

"Come often; if money goes it can come back again; but if my child goes, she will never come back again." This language was never excelled in sublimity by any words spoken by Cicero; and that the pale messenger bore her child away never to return again, was one of those bitter experiences of which, if I minutely scan your horoscope, I observe similar ones traced in dark lines by the finger of destiny.

Insincerity by arts of disguise may for a period escape detection, and for a time it may pass its spurious coin; yet ultimately it will suffer exposure; anon it will forget its mask and expose itself. Insincerity long practiced at length declares itself in form and feature. The possessor's character is slowly but unmistakably engraven by the passing years in his face, and so plainly is it engraven that it is legible even to the illiterate. These facts are well-known to, and utilized by, the artist. The following instances are offered as illustrations of this: In the Frukirke, at Copenhagen, there is a number of the masterpieces of Thorwaldsen; and among these none is more remarkable than the scene of the Last Supper, executed in marble bas-reliefs on one of the inner walls of the church. Conspicuous among the characters is the figure of Judas, the Traitor, in whose face insincerity and treachery are written in lines easily read. The mere sight of this face will immediately awaken distrust and dislike in the spectator's mind; and at the same time, he is seized with wonder at the skill of the chisel, which has so truthfully delineated the character of Judas. Cold, reserved, calculating insincerity has perfect expression

in the face of him who is in the act of betraying his Master. I will offer another corroborative illustration: the admirer of German legendary lore is especially pleased by his visit in Munich to the Niebelungen-Hall, on the walls of which are the pictorial illustrations of the Niebelungen song, the early epic poem of the Germans. As the old Greek had his hero Achilles, so the old Teuton had his Siegfried, whose arm in equal combat was invincible: Unfortunately, however, Siegfried had a treacherous rival, Von Hagen, who killed him with the stab of a spear from behind, while Siegfried was stooping and drinking from a fountain of water. Treachery is most faithfully portrayed in the features of Von Hagen; and though painted by another artist, his face is an accurate reproduction of Thorwaldsen's Judas. In fact, it is clear that insincerity has everywhere but one face. And to the coincidence mentioned, your augur can add another; for he has known a face which had been molded by the great artist Nature, whose possessor had won notoriety by his insincerity and treachery: this face might have served as the original of that of Von Hagen in the pictorial hall of Munich, as well as that of Judas on the church wall at Copenhagen.

On the other hand numerous examples might be cited proving that sincerity stamps its image on the human face; and such image, when seen, never fails to awaken in those who see it, trust and confidence. Such faces in countless numbers were those of the true, good and brave who have devoted themselves to the unselfish work of relieving the ailments of suffering humanity. Enough

has been said in praise of this virtue; let it be firmly interwoven in your moral nature, so that it will quickly remold itself in feature and face, and let it be there associated with earnestness, since, through their union, these virtues strengthen each other.

The third angle of our horoscopic figure bears the inscription, cheerfulness. To-morrow you enter a sphere, where, on every side, you will meet the subjects of pain, agony, misery, wretchedness, sadness, distress, despondency and despair. Breaking hearts will there pour out their sorrow to you. Humanity, struggling in the waves of unutterable anguish, will reach out their arms towards you begging for rescue. For, as Virgil led Dante through the dismal abodes of the dead and displayed to him every degree of suffering, from the mild to the indescribably terrible, so your calling must lead you through every circle of suffering, from that which is merely fancied to that which is so terrible that the pen of a Dante would be unable to depict it. The strong frame, hitherto so powerful that it seemed proof against disease and pain, will summon you to its side, and with childish plaint will entreat your aid; the cry of the sick infant, and the more pathetic one of its anxious mother will, anon, touch your ear; the piteous cry of helpless old age, which, through years, has lost almost every attribute of its former self, will also supplicate the aid of your art, and beg for the boon of a few more days: (one such once said to me, he would give me a fortune if I would prolong his life a year.) Such are the scenes of misery and such the acts of woe, of which you are to be the accustomed observers.

In your ministration to the wants of this wretchedness, no more potent instrument can be brought than that of a cheerful mind. This is particularly true in the treatment of the chronic invalid, whose malady is constantly nourished by the habit of morbid introspection, and which may often be banished for hours by a few cheerful words skillfully spoken by the medical attendant: thus cheerfulness, by a little address, pierces the darkness which beglooms the patient, and is able, for a time at least, to dispel the clouds which darken his sky. The laggard heart of despondency is thus made to pulsate with new vigor; and the sick one lapsing downwards, as he imagines, towards the grave, becomes inspired with new strength, and is made to retrace his steps towards health again. Thus a mental tonic is administered, vying in its action with the best chalybeate; and in its work it awakens resolution and courage, before which vanish dejection and fear.

In the most perilous occasion or dangerous emergency of life an act of self-poised cheerfulness has given great solace; and where the cheerful person was the one imperiled, it has been the means of his rescue. Cases illustrative are the following: When, in 1857, the ill-fated steamer, Central America, which went down in the Atlantic freighted with so many Californians, had sunken and left more than a hundred men floating in the waves, one brave man cried out, "Three cheers for the Central America." The effect, as a participant has narrated to me, was magical: the call was heartily responded to, and for a moment all quite forgot the watery grave which

was yawning beneath and in a few hours afterward received the most of them. That brave man merited a better fate than befell him, for, not being distinguished in that mass of struggling men, his name has been lost: his act, however, lives and deserves a lasting place among deeds of valor. Another case to the point was that of a surgeon in the Union army, during the late war, who, on a certain occasion, having dropped his scalpel and taken up a musket, was taken prisoner by the Southerners. The offense of a non-combatant caught using arms, according to military law, is punishable by death. The surgeon was tried by a court-martial and sentenced to be shot; yet, to the credit of those who held him a prisoner, he was offered opportunities of escape, but which his delicate sense of honor caused him to decline. In accordance with the sentence, a file of soldiers was detailed to shoot the prisoner. As the surgeon stood before his executioners, he saw that some of them were barefooted, when availing himself of the ready cheerfulness which was a prominent element in his nature, the surgeon kicked off his shoes, and throwing them towards the soldiers, remarked that he would present them to one of them, since where he was going he would not need them. These lucky, cheerful words won the hearts of those who stood ready to fire, and lowering their guns they allowed him to escape. This story was told me by the one who was the subject of it, and to-day he is a worthy member of our profession in St. Louis. As a few words, the outburst of a cheerful temperament, turned the instruments of death aside and saved the surgeon's life, so you, by the timely

exercise of this quality, may sometimes turn aside the arrows of disease, or cause them to fall harmlessly at the feet of their intended victims.

Cheerfulness, though such a jewel itself, becomes coarse when it degenerates into levity; nothing is more out of place than the latter in the sick room; more than once have I heard a loose joke add to the sufferer's pain and fill him with disgust for the jester. The sick man longs for encouragement and hope of an early release from his confinement. The careless joke may hamper the key which might, otherwise, have opened the doors of his prison. The patient's heart is athirst for a cup of enlivening inspiration; and for this invaluable restorative, he makes great and constant demands on his physician; to supply this the physician should have a perennial fountain of cheerfulness in his own breast. If, however, nature has been churlish to him in this endowment and to the sick room he carries his melancholy face and cheerless action, and deals out to his patients portions of his own personal woes, then the small demand for his professional services will soon give clear hints to such a physician that he erred in his choice of a profession. The sick man must have cheering hope; for this he pays; and if in its stead he receives the gloomy prognostics of a Cassandra, then he is cheated in both purse and body. Enough has been said to prove the good value of the virtue which stands third in our angled symbol of preseages. Cultivate this quality, and if you fear that nature has not been generous in this gift to you, then enter not the household of human suffering where cheerful benevolence

and not toxic melancholy has work to do; or, if you do enter this household, as a preliminary, delve more deeply into your heart, if perchance there may be found there some undiscovered fountain of cheerfulness.

The next virtue of which I catch a glimpse in the prophetic field is humbler and less brilliant than those already mentioned. This is Willingness to Work. Man is not disposed by nature to idleness, yet most men dislike continuous work; especially in the young do we find an element adverse to occupation in which there is constant sameness. Though busied, they desire frequent change. The great discipline of childhood consists in overcoming this desire for the ever-changing and the ever new. To accomplish this, both teacher and the taught have arduous labor; though the efforts of the teacher are often crowned with success, yet sometimes, his tasks are like the labor of the daughters of Danaus, who were condemned to fill with water buckets which had no bottom. But through diligent effort in youth, a habit and love of continuous occupation may be firmly planted; and when once so disciplined, the fortunate youth is most unhappy when his accustomed occupation is interrupted; to one so molded, constant employment brings the sweetest enjoyment. These are strange words to the idler and the loiterer, who are searching in every quarter for mutation and distraction. The disciplined son of continuous and regular labor is happy, and he adds to the happiness of those around him; he has reached the highest position attainable in human existence. But those who enroll themselves in the army

of idlers and loiterers, who march in quest of diversion, and distraction, will soon be captured by disappointment and misfortune; or should they attempt escape by retreating, there is no rescue for them in that direction, for in starting they burnt their ships behind them. A millstone about the neck of such would do good service, both for them and the world.

For you, perhaps, this moral excursion was scarcely necessary, since I have learned that you are disciplined workers, and that the pleasant custom of labor is established in each of you. I hope, however, that the excursion has not been made in vain, and that though the habit may have been well planted, perhaps the fostering words I have spoken may cause it to take deeper root. I remember too that the ceremonies of this night mark a great change in the current of your work, both in character and direction. To-morrow you offer your services to the world, yet the world will not be in haste to accept these services, for, before doing so, the world, for a time, will composedly scan, criticize, and at length leisurely weigh you in its scales. Your position to the world is similar to one who has business with some high dignitary of State who, insolent in his office, at the time of the visitor's call, is reading his newspaper; the dignitary will not turn his face towards the visitor until he has finished his paragraph, and then he only does so condescendingly. Meantime, while the world is reading its paragraph and weighing you in its scales, how are you to be employed so that you will not lose the habit of work? This time may be valuably occupied as follows: The first thing

you should do will be to read the numerous notes you have taken during your studies. The clinical history of the cases which you have studied in the hospital or dispensary, should be read and re-read until they are indelibly written in the "book and volume of your brain," whence as unerring guides they can be invoked for future use. With these histories you should become so familiar by rehearsal that they become enduring elements of your conscious self. Nothing is more unsatisfactory than to meet a practitioner in consultation whose knowledge in scattered, fragmentary incoherence, avails him nothing for practical use. As the bee which gathers crude sweetness from many flowers, carefully elaborates his materials before they become honey, so the knowledge which you have gathered from many sources must be carefully assimilated in your mind, before it can properly aid you in your professional work. This mental assimilation consisting of correlation and union of the facts which lie sundered in memory into one harmonious whole, is a work quite as important as was the acquisition of those facts. And in those days of probationary waiting, should the world through sympathy with you deign to entrust a few of its indigent sick to your care, diligently study such cases, and compare them with the types which, during your studies, have been observed; and if the cases presented to you differ from any of the types which you have observed, then you should place them as near as possible to those you have seen; thus doing, as Celsus says, you will not err in your treatment.

As nutrient material, when consisting of a variety of things, best accomplishes its purpose, in like manner the understanding reaches its best developement, when the mind is not always directed in one channel of thought. Hence, along with the review of your notes and the reading of a journal containing periscopic selections of current medical literature, excursions may be profitably made into the domain of science and literature. As books which may be usefully read, are Grote's History of Greece, Gibbon's Decline and Fall of the Roman Empire, Buckle's History of Civilization, and some of the leading plays of Shakespeare. And if you are fortunate enough to know and remember Greek and Latin, employ two or three hours every week in reading some choice selections in these languages. A few lines read in Homer and Thucydides, each week, will enable you to retain the Greek, the most wonderful tongue in which the human mind has ever voiced itself. In the Latin language, of which every medical student must know something, I commend Celsus as the most useful and interesting of classics. One finds in the work of Celsus an epitomized summary of the essentials of medicine, told in a style of force and terseness which cannot be reached by any modern language. The Celsian quadrangle of *rubor et tumor cum calore et dolore*, tells more about inflammation than one often finds in a hundred pages of a modern writer on this subject. And likewise his few pages containing a review of the doctrines of the old sects in medicine, contain facts enough to make a modern octavo if they

were presented in the dilute verbiage in which the modern writer too often dissolves his paucity of facts. And besides Celsus, Tacitus and Horace should have their half-hours: in the former more eloquent lines can be found than exist in any other author, ancient or modern. A Welsh proverb says, "as honey flows from the honey comb, so does music flow from the strings of the harp": the music of the lyre of Horace excels honey in its sweetness, since in the varied measures of ode, carmen and satire, it can awaken all the emotions of the human heart, whether of mirth, gaiety, sadness, solemnity or sublimity. No wonder that Condorcet, when concealing himself to escape the threatening guillotine, stole at night from his hiding-place to a friend's house and begged for a copy of Horace. And if your linguistic acquisitions have taken in, as should be the case, some of the modern tongues, then in French and German you will find inexhaustible stores which offer their treasures to you, both in medicine and literature. Some one may say why not read translations of works in other languages: That might, in a measure do, in the modern languages, but it will not do in respect to the ancient ones: no translator has yet been able to give the spirit and beauty of the writings of antiquity. Though the artificer's skill be ever so cunning, yet in his transferring of the gems of thought from their pri iitive setting to a new lingual casting, the jewels receive some flaw, and immediately lose some of their original lustre. The thoughts of Horace, as rendered into our language by the able English translator, Smart, seem mutilated as

birds which have been stripped of their plumes. To accomplish the task which I have sketched out for you, the work can only be done by those who are willing to labor, and who work systematically: by those in whom work has become an immutable habit. As can be inferred from what has been said, this habit is not the product of spontaneous generation: the germ of it must be planted, and the rising plant must be shapen with wisdom and foresight; it must develope with depth of root and breadth of base : thus formed, like our Sequoia, it will not be disturbed by storm or time, but lasting coeval with its possessor, through the many-sided enjoyments which it brings, it will repay, many times, toil spent in its planting and culture.

We have at length reached the last angle of the figure which has given so many oracular hints for your guidance in future: and this bears the simple inscription, Self-Denial: in the idea of self-denial is also contained that of self-control and discipline of the temper and passions. If man be compared with the lower animals, it is seen that in the latter self-gratification is the ruling principle of their lives, while in the former, the aims and objects of human cultivation are the domination of the selfishness naturally innate in man. Man's appetites and passions, excellent as servants, if admitted to mastery, at once becomes pitiless tyrants. In art, science, and all the means which contribute to human comfort, the century has made admirable advancement; yet in all our vaunted progress and in the boasted inventions and discoveries of recent years, no means have been found which will release

the shackles which ungoverned passion places on its victim. Terrible is the burning heat of him whose consuming fever will seek your professional aid; and the appeal to you will not be in vain, for the recent advance in medicine has given you the means to reduce the devouring heat of that fever; but the thirst which the uncontrolled indulgence in intoxicants finally kindles is unquenchable; no known antpiyretic, moral or medical, can repress or control it. In the entire range of chemical elements and physical agents composing the universe, nothing can be found from which such a remedy can be made. Yet the prophylactic remedy is common enough; it is in the possession of every youth; it is within the keeping of each of you; it is contained in the virtue self-control and in the disicpline of your appetites. Let this work now be done and thoroughly done; if you fail to do so, then farewell hope, farewell honor, farewell ambition, for with your own hand you will pluck from the book of life the page on which your name is written and cast it into the waste-basket of oblivion.

Most students of medicine are poor and pursue their studies under great difficulties, and such well know the full value of every cent, dime, and dollar which they possess. Yet to you to whom these words apply such privation has not been without its advantages. For the stony path of self-abnegation which you have been forced to travel has hardened and strengthened your feet for the coming journey. The bitter cup of need which has often pressed your lips like a lasting tonic will give you enduring strength for the contests in the arena of life.

With such training the combatant always proves a victor. Cameron, the wealthy statesman of Pennsylvania, a few years ago, said: "My son starts in life with many advantages which I did not have: but I had one which he did not have, and that was poverty." Said the great Goethe: "He who never sat weeping on his couch and never ate his bread with tears, he knows you not, ye heavenly powers." I, therefore, especially congratulate you who have been the subjects of this experience, and who have not yet wholly finished with it, for your well-trained arms disciplined by many struggles with adverse fortune, will surely gain the prizes awarded to the best work.

After the period of probation has been finished, through which, as before said, each one of you must pass, the world will accept you in its confidence; but, even then, the work of self-abnegation will have ample room for its exercise, for the world will then stand before you with a full purse in each hand ready to shower bounteous gifts on you. One of the purses, often the larger one, is that of bribery and corruption, and it offers to recompense you generously if you will aid it in accomplishing its dishonorable purposes. Among such purposes may be mentioned the slaying of the unborn, the promotion of suits of damages against corporations and individuals for feigned injuries, the creation and treatment of imaginary disease, and other dishonest action in which the medical man may become the deciding factor When the siren of temptation salutes your ears with the music of gold in the purse of corruption, let Self-Denial

bind you to the mast of unswerving rectitude, and like Ulysses of old, make safe your escape; thus doing, the world will double its gifts to you from the other purse which contains ample rewards for honest dealing; and these rewards will be sullied by none of the shame and regrets which, like an inseparable shadow, ever follow gold from the purse of dishonor.

In antiquity medicine had shrines and altars erected to its tutelary divinities. At the foot of the Acropolis in Athens, I was shown where once stood a temple of Æsculapius: on the altar in this temple, Socrates, as he was on the eve of swallowing the fatal cup of aconite, directed his friend to make a sacrifice. Within the domain of the profession which you are entering, there stands also an altar on which you will make many sacrifices. To this fane you will bring as gifts hours of night consumed in anxious watching while other men are reposing in sleep; on this altar you must sacrifice days of unpaid-for labor; loss of personal comfort and ease must furnish unceasing contributions to keep alive the fires on that altar, and anon, the brightest flames here, will be kindled at your expense by unfair and unjust criticism of your professional work. This altar which will demand incessant offerings from you is constructed of the costly materials of self-denial; on it is inscribed the word *Duty*. At the foot of this altar you have appeared to-night to make your final vows, vows in which self is laid aside and service to human suffering is everlastingly promised.

I have finished my work of interpreting the inscriptions of the prophetic symbols which should serve for your

guidance in professional life; I am glad that I have found so much trustworthy instruction in the augur's field; let the figure found there, ablaze, as it is, with monitory jewels on every side, have the first place in the hall of memory; where, whithersoever you may turn, its radiant beams may strike your mental eye. Truer than the mariner's needle, these rules without deviation or error will guide you towards the star of success: for so surely as you are governed by them, against your name in the chronicles of human action no syllable will ever be written by the hand of Failure. Now, if with the further license of the seer I turn aside the veil which conceals the coming years for a moment, both ear and eye are delighted: for, in the near hereafter, I hear the world greeting you with salutations of applause for work well done; and I see it crowning you with laurels gathered by the sister Virtues to whose tutelary care I have commended you; and with the enthusiasm which this hour permits, if I look still farther down the vistas of coming time, afar off I descry other alumni who, though trained by another generation of teachers, yet as the children of the same Alma Mater are akin to you; I see that they, too, are victors, and from the Genius of Success they are receiving coveted prizes woven by Earnestness, Sincerity and their sister Virtues.

Human memory has its limitations, and we scarcely have a right to chide it for lessening its burden by dropping its distant links in the past; and it is probable that sharing the common fate of all things, the footsteps of coming years will obliterate the individuality of the

work of which you now are witnesses; yet the work itself will not perish; Cooper Medical College, of which this occasion is the complementary and final dedication, through its recent endowments is insured of perpetuity, and of a lasting place in the diadem of learned institutions which adorn the brow of California. And to you, the lesson of self-denial so enjoined by precept to-night, is, in its long history, still more forcibly taught by example, since over the portals of this edifice one seeks in vain for the donor's name.

The fleeting pageant of this hour has nearly ended; its counsels, its greeting, its joy, and perhaps I may add its sadness, will soon have departed and passed into the vanishing echoes of memory; a short time ago you stood before me and received scrolls on which is recorded testimony of your attainments and qualifications; you now stand before a greater personage, Futurity, who has gifts for you of occasion, opportunity and the priceless privilege of living; she reaches, also, to each of you another scroll on which no word has been written, but on which each of you must record the actions of his life; do your writing well and faultlessly, for no erasure or change there is ever permitted; very precious is the material of which it is composed, so precious, indeed, that in the great treasury of nature time finds but one such scroll for each human being.

Eight years ago in an address to the graduating students of this College, I conducted the class in an imagined excursion to the Sierras, in which the eastern shore of Lake

Tahoe was visited, and from objects in nature seen there, materials for a valedictory address were drawn; that occasion was a momentous one in the history of this institution since the original building of Cooper Medical College was just completed and was then donated by me for the purposes of medical education. The present time is a no less important one, since it is the occasion of the completion of an addition to the original building, which greatly increases the capacity of the former one, and has been constructed at a cost of a greater sum of money. This structure, which, in its space and internal arrangements is equal to any edifice of the kind in the old or new world, has been built by me, wholly, through means earned in my profession; those means have not been derived from bequests, inheritance, or trust from the one whose name the institution bears, or from any one else; I make this public declaration since the contrary has been stated. Any doubt upon this matter will be silenced by a reference to the archives of the Probate Court of San Francisco. It is certain that of the authors of this falsehood, the Virgilian half-line,

Sic vos non vobis * * * * * *

would never have been written; since so far from being the agents of impersonal work, they cannot concede its possibility in others.

It is a source of great satisfaction to the friends of Cooper Medical College, that since the original building was erected the school has been successful beyond anticipation, the attendance having doubled in numbers. And this is due to the excellent work which has been done by

the several professors; they have done their parts with punctuality, industry and faithful earnestness; they have been free from jealousy and forgetful of self; in brief, they have done their duty and still intend to do it. This work has been recognized by the Royal College of Surgeons of England, the highest English-speaking authority; this learned body has recently given Cooper Medical College full recognition; an honor shared only by a few medical schools on this continent.

The completion of the work which establishes Cooper Medical College on a sure basis has been the chief object of my life; it has been the animating inspiration of twenty-five years of professional labor.

Completed as the edifice now is, it is conspicuous for its architectural beauty in the far distance: as the Parthenon once loomed up on the Acropolis to the voyager on the Ægean Sea, so this edifice fixes the vision of him, who entering our Golden Gate gazes on our many-hilled city; and as Minerva's temple and statue awakened rapture in the beholding Athenian's heart, so this fane must become a precious image in the hearts of those who, in the future, shall here be disciplined for their mission to suffering humanity.

To Medical Science, which is inseparably linked to all other sciences, and to the Healing Art, the greatest of all arts, this property is now given by me as a perpetual dedication.

ADDRESS

DELIVERED AT COOPER MEDICAL COLLEGE, NOV. 13, 1890, BY EDWARD ROBESON TAYLOR, ON THE OCCASION OF THE UNVEILING OF THE BUST OF DR. L. C. LANE.

My Friends:—

Eight years ago, with appropriate word, there was dedicated to the cause of Medicine the college edifice so well known to us all, and in which has been successfully carried on by Cooper Medical College the work of medical instruction. In fact, so succesful has been that work, and so promising the future in connection with it, that the same self-sacrificing hand, which eight years ago reared the original structure, has now made an addition to it of such large proportions as to double its capacity. The college structure proper, as it now stands completed, whether considered from the standpoint of architectural beauty, or from the standpoint of adaptedness to purpose, is not surpassed by any Medical College building in America, and indeed there is perhaps but one which can be said, in these respects, to at all equal it. And in its appointments and appliances for the work to which it is destined, the future will not be far distant which will see it in that regard the rival of the very best our country

can boast. In the new annex the work of practical chemistry will be much extended by increased laboratory facilities, and physiology, pathology and bacteriology will have an entire floor devoted to their practical study. This annex was indeed a necessity. The classes here in attendance on medical instruction had become so large, that there was no room in the original building of sufficient dimensions to comfortably accommodate them, short of the hall used for the winter course of public lectures; and large as the original building was, it was yet incommensurate to that ever widening stream of instruction which must necessarily flow through such an institution as Cooper College. And so it is, that the original public lecture hall has been turned over to the students, and the public accommodated instead in the commodious and beautiful hall where we are now assembled.

But not only has this institution increased its facilities, but it has as well increased the quantity and quality of its work. The members of the Faculty, who here devote themselves to the cause of medical education, are not laggards who perfunctorily run the same round year after year, content with present intellectual acquisition, and wishing for nothing beyond a comfortable income; but on the contrary, they do their work for sheer love of it, and in the spirit of the purest emulation; they zealously keep themselves abreast of the science and learning of their day, and with undiminished ardor labor with those who here flock for instruction at their hands. Some of them are original investigators and authors of acknowl-

edged authority; while not a year passes but you shall see some one of these devoted men lighting his torch anew at some great medical center in Europe, that thereby the illumination of his instruction may not become weak or dim. And indeed, one of them was not an inconspicuous member of the International Medical Congress, whose session at Berlin was by far the most notable event which occurred in that city during the present year—presided over, as it was, by the incomparable Virchow.

In these halls Practice walks hand in hand with Theory. The student is not turned out, diploma in hand, knowing nothing but that which he has learned from lectures in the lecture hall, and being compelled to acquire the practical part of his profession after he shall have left college. On the contrary, he is taught at the bedside as well, and in the wards of the City and County Hospital receives clinical instruction in both medicine and surgery, while here at the College he receives a like training of the most useful character, there having been treated at this institution during the past year no less than two thousand cases, each one of which was personally brought to the attention of the students in attendance. But the student is not alone taught clinically by lectures, for the seniors have cases put in their charge under appropriate supervision and criticism, so that by the time they handle their much coveted diploma, they know something of what it is to be a doctor. So complete is this method, that each case in charge of a senior is diagnosticated and treated by him in the presence of the others of his class, and in the presence as

well of the clinical instructor, who comments, as occasion requires, upon the case and its treatment by the student, and intervenes, when necessary, to hold that treatment to its proper course.

In addition to the student life which animates these halls, there is a feature which is of quite singular distinction—that of the "*Lane Lectures.*" These lectures are delivered every winter in the public hall of this College, at intervals of two weeks, by the various members of the Faculty, and treat, in a popular manner, of those subjects which deal with the structure, environment, and health of the human body. They have covered a wide range, and have been attended by such large audiences, as at times to render the original hall too small for the attendance. These lectures will be continued every winter in the hall where we are now assembled, and will doubtless, in the future, as in the past, be kept up to the highest standard. In fact, their perpetuity has been provided for by the founder of this College, who in this, no less than in his strictly professional benefactions, has combined his love for medicine and humanity with such wisdom and resource, as to illustrate anew the versatility of his superabundant nature.

This Institution is so flourishing, and is attracting to it so much of the best in student life which seeks medicine as an outlet for its energies, that we may reasonably anticipate not only the graduation from its halls of men and women well equipped for the every day round of practice, but men and women as well of original research, who will open up fresh paths, and by their connection with

their *alma mater*, add new pearls to her crown of glory. This thought must be strongly pressed upon us all, as we scan the appearance of the graduating class now before us. From such as these there will surely arise, from time to time, some son or daughter of this nourishing mother, whose hand shall pluck out the heart of more than one mystery.

Of course, a College like that of Cooper has a history. Being the valuable thing it is, it must have grown—such things never can be manufactured; invariably they grow from very small beginnings. And so has this Institution. Its origin lies back of the sixties in the private medical instruction given by Dr. Cooper—that eminent man whose name this College bears, and which name, inextrically linked with that of Lane, is registered with his on the beadroll of Medicine, there to remain indelibly forever. This private instruction of Dr. Cooper's led to his being joined by others, among these coadjutors being his nephew, Dr. Lane. These men were nearly all enthusiasts, and until internal dissension unfortunately severed their relations, labored with a success that sweetened many an hour of professional toil. But the true men of the school had that within them which would not let them give up the work; and hence it was, that the school, after a suspension of a few years, took on renewed life, affiliating, under its renaissance, with the University of the Pacific, and maintaining under that affiliation constantly increasing vigor. Some of the best known physicians in our city were graduated from it, the Dean of this College being one of its most honored alumni. When

Cooper Medical College was founded, the Faculty of the Medical Department of the University of the Pacific transferred their allegiance to it, and thus it is that Cooper College stands in line of direct succession to the first medical school ever organized west of the Rocky Mountains. Much could be said by way of detail in regard to all this history, if time sufficed, for it is rich to repletion in those things which go to make up all that is of any real worth in this selfish life of ours.

The work this College is doing and promises to do, has naturally drawn to itself the thought of some observant ones, who are moved to travel beyond the boundaries of mere material gain in search of the higher things of life; and pecuniary aid from such, for the future advancement of the interests of the College, may confidently be hoped for. Indeed, fruition in this respect has already been reached in the case of one person — Capt. JAMES M. MCDONALD. This well-known citizen, whom to know is to honor and respect, of his own motion, and without even hint or suggestion from any one, has, within a year, bought and denoted to the College for college purposes, the fifty vara lot adjoining the College premises on the north—a noble benefaction most nobly bestowed.

And DR. LANE himself, not content with his former benefactions to the College in the shape of lands and buildings, has, in addition, made a deed of gift to the College of the two fifty vara lots which adjoin the college premises on the east. Thus this corporation, devoted solely to medical instruction, owns, by free gift, a piece of land two hundred and seventy-five feet square, fronting

on three important streets, and a college edifice architecturally imposing and beautiful, and possessing every present facility and resource for a complete medical education. And this has been done so silently, so unobtrusively, so far removed from the trumpetings of the newspapers, that this new building seems almost like an Aladdin's Palace, risen in a night.

And all this is the work, substantially, of one man—Levi Cooper Lane, who, for twenty-five years, untiringly, unswervingly, and with every energy of thought and action, and despite every temptation and obstacle, has pursued this one aim—this supreme object of his life. This man helped to lay the very foundation stones of medical education in this State, and from that time to this he has pauselessly continued at his work, until we see this mighty architectural tree now bending above us, and beneath whose branches thousands of students for many generations yet to come are destined to find intellectual nourishment to the healings of the nations. He has never sadly "mused and said," with Brownings' Paracelsus,

> "I had a noble purpose, and the strength
> To compass it; but I have stopped half-way,
> And wrongly given the first fruits of my toil
> To objects little worthy of the gift."

No, but having the noble purpose and the strength to compass it, without stop, without pause, he has pursued that purpose to a marvelous achievement, and has not only given the first fruits of his toil, but the fruits of his years of toil, to one of the noblest objects which can command the attention of man.

This life work of our beloved friend may, without indelicate or excessive laudation, be truly called sublime. Take its worthiness, its undeviating constancy, its singleness of purpose, its unselfishness, its heart-abundance, its exceeding modesty, the expenditure made by the donor in proportion to his resources, and then finally consider his wisdom and practical good sense in matter of detail, together with the great success achieved, and it stands without parallel in the history of medical benefaction. Indeed, in the combination of its qualities, it may well challenge comparison with any benefaction of which we have knowledge. But more than this, we have not here a man grown rich by speculation, who throws to public charity a few millions, for ease of his soul as it were; but we have instead a man toiling laboriously at his profession year in and year out, and carefully laying away his professional gains, until the accumulated store is sufficient to meet the one great desire of his heart, and then appropriating that store, as we now see him, for the satisfaction of that desire—to the extent in money value of at least a quarter of a million dollars. Ah! precious indeed is such benefaction, for every stone in this great building, aye, every inch of ground covered by the donor's gifts, is lovingly bedewed with the sweat of professional labor. Had he inherited this wealth so abundantly bestowed, or had he gathered it in the field of some fortunate enterprise, we would have taken it approvingly and have worthily honored the donor; but it would not have come to us as it has now come. It would have lacked something which it now has—that soul-satisfy-

ing essence which makes the gift not only unique of its kind, but precious beyond all price. And what a harmony of parts the whole discloses! How the life work of the man, the results of that work in material gain, and the crystallization of those results in the cause of medical education, harmonize with each other, and satisfy not only the ethical, but the esthetic sense, as well. And how entirely fitting it is, that all this should have been brought about by him who is concededly at the head of his profession in this State, and who justly stands at the fore-front of all that is best in medicine,

In the presence of these reflections, well may we say with Festus, as he soliloquizes by the bedside of his dear, dying friend Paracelsus:

"Ay, here!
Here is earth's noblest, nobly garlanded—
Her bravest champion with his well-won prize—
Her best achievement, her sublime amends
For countless generations fleeting past
And followed by no trace;—the creature god
She instances where angels would dispute
The title of her brood to rank with them—
Angels, this is our angel! Those bright forms
We clothe with purple, crown and call to thrones,
Are human, but not his; those are but men
Whom other men press round and kneel before;
Those palaces are dwelt in by mankind;
Higher provision is for him to seek
Amid our pomps and glories; see it here!"

And she, who has stood at the side of our friend these many years with every aid that sympathetic encouragement could give, so presses upon my thought in connection with him on this occasion, that my remarks would

be far incompleter than they are, without at least some mention of her name. This man has labored beyond what we may know; he has had his many discouragements; he has not always been well; there were times, doubtless, when the end seemed beyond all hope of achievement; but there never was a time when he failed of helpful sympathy and encouragement from her, whose interest in his lifework seems to be as great as his own; and never a time when with her, the College was not first, and all things else second.

Ah, great, indeed, is the glory of woman! How wondrous and of what deep significance is that which Gœthe so profoundly and poetically characterizes in one word of his own coinage as *Ewig-Weibliche!* Dominated by this, the essential element of her being, what sacrifices woman makes in the secluded groves of her appointed work; but from the altar of these sacrifices what grateful, love-compelling incense ascends to Heaven! What salvation issues thence for the perpetuity and advancement of the race! As George Frederic Parsons so eloquently says in his introduction to Balzac's "Seraphita," this *Ewig-Weibliche* of Gœthe "is the force which *zieht uns hinan*, which lifts us toward higher spheres and inspires us with nobler aims; which on the physical plane keeps before our dull and earth-drawn eyes constant examples of self-sacrifice, altruism, patience, compassion, and love stronger than death; which is most effective in subduing and extirpating the sordid animal tendencies and inclinations from our nature, and in substituting impulsesand aspirations which may give us foothold

in the path that leads toward a life better worth living."

Ah, great, indeed, let it here be repeated, is the glory of woman! With what ineffable refulgence she shines when we view her as illuminated by the genius of Gœthe and Balzac! Fame writes not her name on bronze and marble, but the deathless names which are there written have blossomed in her heart. Pardon this digression, if digression it seems; but with such a text more might well have been said rather than less.

The Faculty of Cooper Medical College have, more than others, as was natural, appreciated at their high value the great services rendered to medicine by their head. They have been his worthy and zealous coadjutors for years, and no word of appreciation to him is richer or weightier than theirs. But they have deemed it altogether fitting and appropriate to go beyond mere words, and to set up in this hall a lasting memorial to the friend they love to honor. To that end they have had his bust cut in the purest Carrara marble by an esteemed artist of Munich, and have had the same appropriately mounted upon a colored marble pedestal, and placed within a niche in this lecture hall, where it is to remain forever, the perpetual embodiment of the guardian spirit of this place. Upon behalf of the Faculty, who have deputed me to perform this kindly office, it gives me one of the greatest pleasures of my life to speak for them on this deeply interesting occasion, and in their name to formally present this truly beautiful work of art to Cooper Medical Col-

lege, with the hope that "Time's effa
never mar its pristine beauty and pu
seems to have been inspired by his su
here produced the living, breathing mar
he lives, and with such power and del
nothing further to be desired. Art her
ingly and rejoicingly with Science an
crown with imperishable laurel this glo
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inadequately to their importance, may
present vigor for many years yet to co
great projects for medical education
time be so far realized, as that h
earth may rest on no single unfinis
on a rounded and harmonious whole,
shall have the noblest habitation our
seen. And as we unveil this marble,
the first time upon the work which A
achieved, there is no one here present
feel, that marble never served a nobler
shone with a richer lustre; but while
sculptured form which shall thus be tr
generations, our thought cannot but ri
able stone to the character and life
which may not perish but shall endur

AN ADDRESS

the Valedictory delivered at the Commencement Exercises

of Cooper Medical College, December 6, 1892.

BY

HENRY GIBBONS, JR., M. D.,

...ssor of Obstetrics and Diseases of Women, and Dean, Cooper Medical College

San Francisco, California.

SACRAMENTO, CALIFORNIA:

Reprinted from the OCCIDENTAL MEDICAL TIMES, JANUARY, 1893.

AN ADDRESS

the Valedictory delivered at the Commencement Exercises of Cooper Medical College, December 6, 1892.

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Being the Valedictory delivered at the Commencement Exercises of Cooper Medical College, December 6, 1892.

By HENRY GIBBONS, JR., M. D., Professor of Obstetrics and Diseases of Women and Dean, Cooper Medical College, San Francisco, California.

Ladies and Gentlemen: Our meeting here to-night is a thrice pleasurable one; pleasurable alike to the professors who witness the fruition of their labors and look forward to some short respite from college duties; to the members of the graduating class who have reached the goal of their present ambition and now crown their long period of study with the doctorate; and we hope to the indulgent friends who grace the occasion with their presence.

But, answering for the faculty, a deeper emotion must move us when we contemplate the responsibility we assume in testifying to the capacity and qualifications of these graduates, and in authorizing them to enter upon the practice of our profession. The occasion is thus a serious as well as a pleasurable one, and it is fitting that we should solemnize it with appropriate ceremony.

The faculty has had no misgivings in granting to these candidates the privileges of the diploma. Let me present some facts in corroboration. Few who have not investigated the subject can form an adequate conception of the amount of study and labor necessary for the attainment of the degree in medicine, and few, I imagine, are fully informed of the great advances in the science and art of medicine accomplished in the last decades, of the improved methods and increased facilities for teaching, and of the successful efforts made to elevate the standard of medical education.

The first medical school established in the western world was that of the University of Pennsylvania, at Philadelphia, in 1765. It has been in continual existence since that date, and is now one of the leading colleges of the country. Much of the education that the medical student received at that early date, or even fifty years ago, or less, was from a preceptor. The student rode about with the physician visiting his patients, and thus became familiar with the diseases of the locality and their ordinary treatment. Meanwhile he read his text books and received, in addition, such instruction as the physician had time, opportunity, or capacity to impart. This instruction, covering a year's time, was at an earlier period usually accepted in lieu of a course of lectures. Thereafter attendance upon one course of lectures of four months' duration completed the education and entitled the student to examination for the degree. It will be seen that the entire time at college requisite to

secure the degree was but four months. In the more populous and older parts of the country two courses of lectures in as many years were exacted; but it is within the experience of men now living that the lesser requirement only was exacted by the colleges of newer settled communities.

Less than thirty years ago no college of the country required more than one year's preceptorship and two courses of lectures of four months each, and this was the requirement of the predecessor of Cooper Medical College when I first became connected with it. Although a few of the 130 medical colleges of the United States increased their curriculum over ten years ago, the increase has come almost entirely within the last decade. Let us see how great has been the advance since that time.

In 1870 this college lengthened its two terms to five months each. In 1879 a third term was added. In 1886 a winter term of four months, besides the three terms of five months each, was required, and one year ago another month was added to the regular term, so that whereas in 1864 eight months of didactic lectures in two years entitled the student to examination for the degree; now twenty-one months in three years, are required, or an increase of 162½ per cent. Nor is this all. Ever anxious that our graduates shall reflect credit upon their *alma mater* and be fully worthy of the title we confer, we have already adopted a four year curriculum, to take effect a year hence.

Twenty years ago no educational restriction existed to bar the entrance of even the ignorant upon the study of medicine, at any medical college in the country; now, an educational qualification is required by nearly all. The effect has been to materially raise the average intelligence of the classes. A large proportion of those now presenting themselves for registration are graduates of literary universities or colleges, or of high or normal schools, or at least have taken partial courses in such institutions. All others are subjected to examination. Quite a number of the latter are induced to pursue preparatory studies before entering upon that of medicine.

What have been the causes of this great awakening in the direction of medical education throughout the land? for the whole country has been aroused. Few schools now remain which require but two years of study, and they must soon submit to the general demand for advance in this respect. The causes are no doubt many, but we look with pride to the part which the profession of our noble State has taken toward the accomplishment of the result. It was here that the ball was set in motion, which, gathering force as it rolled onward, became irresistible and triumphant.

Sixteen years ago, in the centennial year, the physicians of San Francisco determined to make some effort to suppress or diminish the quackery which prevailed so extensively in our midst. They caused to

drafted a bill prohibiting the practice of medicine by those unquali-
l, and otherwise regulating the practice of medicine, which, being
esented to the Legislature, became a law. This was the little ball
hich our far western State set in motion. In no other State of the
nion was there a similar law at that time. Although poorly executed,
e operation of the law was salutary. Many ignorant and incompetent
id evil-minded men were obliged to leave the city and State. Other
tates appreciating the benefits, soon adopted similar laws, and the ball
oved faster.

At the present time almost every State in the Union has a Medical
'ractice Act, some of them, fortunately, more efficient than our Legis-
ature was willing to give us. Among these is specially to be noted the
aw of Illinois, which has been efficiently administered and well sus-
ained by the Courts. It is said that upon the enactment of this law
900 incompetent and uneducated men who were practising within the
borders of Illinois were obliged to perfect themselves in medicine, cease
practising, or leave the State. But it was not the sole aim of the laws
to debar from practice the incompetent. They sought to prevent the
entrance upon the study of medicine of the incompetent and ignorant,
and to secure better opportunities and longer periods of study for those
admitted. To California, then, I claim is due the credit of inaugurat-
ing this movement which has done more to advance the cause of med-
ical education in the last ten years, than was accomplished in the fifty
years before. Well may the early movers in this direction congratulate
themselves upon the result. Among them no one is more deserving of
praise than the Vice-President of this college, our physician-lawyer,
Edward R. Taylor, who drafted the law, and mindful of his first love,
medicine, has so earnestly striven for its maintenance and effectiveness.

The last half century has wonderfully enlarged, broadened and sys-
tematized the science and art of medicine. Some of its original subdi-
visions have grown until they could scarcely be recognized by the
physicians who practised at the beginning of the present century; and
they would be lost in amazement in contemplating the many new sub-
divisions that have been elaborated. Old fields have yielded many new
discoveries; new fields have been found and explored. Diseases which
were undescribed and unknown have been carefully investigated and
made familiar to us, until now, thanks to some enterprising French in-
vestigator, the human family has 2,500 diseases to choose from.

The great advances in the natural sciences, notably chemistry and
physics, have added many new and exact methods of examination to
our armamentarium. We are not now required to determine disease
solely by exterior signs, but can inspect and explore the interior of
organs. The clinical thermometer, stethoscope, laryngoscope, ophthal-
moscope, speculum, and many more instruments are now our every day

assistants in investigating disease. Their use has become an art, which by experience only can be acquired. Nothing more seems needed to indicate the breadth and extent of the subject of medicine to-day, nor the amount of labor that must be expended in the acquisition of a knowledge of it. In every field of inquiry the student of to-day has vastly more to learn than formerly. Let me trace for you in brief the work that must be accomplished in this college.

Should the student enter the short or winter course of three months' duration, his introduction to medicine is gradual. Ten or twelve lectures a week only are given, in order to afford ample time for the practical study of anatomy, which is the foundation for the study of both surgery and medicine. In the following June the active work of the year begins. He must then attend from four to six lectures daily—aggregating 600 in the six months' term, besides dissecting in the mornings, attending several quizzes in each week, writing up his notes of lectures, and reading in his spare moments. He closes the year with eight written examinations, upon as many subjects, each occupying from two to four hours. In his second year to this work is added attendance upon clinics. At the hospital and college fifteen hours a week are spent in this duty. Here he witnesses the various forms of disease, the methods of examination and treatment of patients, and operations. An examination similar to that of the first year closes the work of the second. The short term of the third year closes with an elaborate examination. The long term is a repetition of the amount of work of the second year, but is varied by giving it more practical features. The student not only witnesses the examination and treatment of patients, but *makes* such examination himself and suggests the treatment and performs the minor operations. A fourth examination upon fourteen subdivisions crowns the three years' work and determines the decision as to whether it has been well or poorly done.

It was in former years considered a standing reproach to American medical education that so short a time was required for obtaining the degree. That reproach, in so far as the better colleges of the country are concerned, is no longer valid. The third year is now required, and soon a fourth will be added. An examination of the amount of study obligatory here and in Europe shows little difference. It is readily demonstrated that more work is actually required in the three years of study in this college than in four years in the colleges of England.

Thus have the graduates whom we introduce to you to-night pursued their arduous labors; thus have they passed their ordeal; thus have they justly acquired their right to the title conferred upon them. It remains for you to sanction our work and encourage these beginnings. I turn them over to your tender mercies.

But before leaving this topic let me revert to the subject of a pre-

ninary educational requirement. A good education, especially in a ientific direction, is an invaluable stepping stone toward success in the udy of medicine. Every year corroborates this statement. Every ear demonstrates to us the fact that the student with good preliminary ducational qualifications acquires, comprehends and retains more eadily and passes more satisfactory examinations. While a large proortion of our matriculates are well prepared—and this proportion is onstantly increasing—too many who present themselves are but scantily supplied. We look to you—the people—and to the physicians of the State, to aid us in this direction. If there be any within your knowledge who are contemplating the study of medicine, urge upon them the importance of a proper preliminary education.

My remarks would not be complete nor would I be following the time-honored custom, did I not add some parting words to you of the graduating class, who now close your long term of pupilage with us. Your earnestness, diligence and zeal in this, your probationary period in medicine, have won for you our high regard. We welcome you to the ranks of the noblest of all professions. But we greet you as students still, for all must be such who hope to attain success and preferment. There must be no drones in the hive. You will probably ever recognize this occasion as a most important epoch in your lives. From it you will look back upon the past with satisfaction, and you will look into the future with expectancy and hope. You have just accomplished a difficult and tedious journey, but while at times it may have been tiresome and laborious, it has not been without its pleasures and enjoyments. Your journey has often been by broad and well-traveled roads, but again by rough and devious paths, or through almost untrodden fields. Great obstacles which seemed almost insurmountable have opposed your progress, but by steady perseverance you have overcome them. Perhaps an occasional slough of despond has well nigh tempted you to abandon the udertaking.

But frequently has your pathway been through green fields and by rippling waters, that made the heart rejoice; beautiful flowers have dotted the hillsides and the plain, to entice you onward, and even the sloughs have yielded their pure lilies; with sunshine and shadow, and rain, has the landscape been varied. In your journey, hills have succeeded hills, and even mountains have been scaled. You have at last reached a commanding eminence and can look back upon the route you have pursued. The once formidable obstacles have dwindled into insignificance, but before you tower higher acclivities to tempt your ambition. You have as yet but climbed the foothills of the mountain range of science. Peak upon peak is presented to view, and to surmount each must require a separate effort. The task is before you. To the earnest, the faithful, the daring, there is no such word as fail.

Probably the one dominant thought of the recent graduate is: "Shall I attain success in the practice of medicine?" Let me ask: "What is his measure of success?" Is it learning; is it reputation; is it position; or is it wealth? It is not given to many of our profession to accumulate wealth in the practice of medicine. The vast majority must be content with securing a competence—a comfortable living; and this is almost certainly obtainable by faithful, earnest, honest work. Success is not worthily measured by money value. He who makes it his leading aim is rarely an ornament to the profession. He may achieve his ambition; he may obtain notoriety, but rarely reputation. Let, however, learning and skill be the measures, then with diligence and conscientious application, reputation is almost assured, and following in its train as a natural result are generally to be found position and competence. Let the physician be but true to himself and true to his profession and he cannot utterly fail. Let him but ennoble his profession and it will reciprocate an hundred fold: Truly fortunate and justly honored is he who attains learning, reputation, position, and wealth. Surely is his measure full.

It must be admitted that success in life depends upon a variety of conditions, among which the personal equation is of great importance; but if I were asked what condition or characteristic is of greatest importance, I should place above all, the capacity and the willingness for work. Not erratic, desultory, and interrupted work, but steady, earnest, thorough application. Not work for a few hours a day, nor for eight hours or ten, or for the day alone, but for the night as well. He must indeed learn

"To scorn delights and live laborious days,"

who would win fame or riches. Since the capacity for work necessitates a sound and vigorous body as well as mind, it is of the greatest importance that the health should be preserved. With good intelligence, a vigorous mind, and a robust physique, what limit can be put upon the acquisition of knowledge? Cultivate the virtues of self-denial, frugality, and temperance. Let labor and rest, study and sleep, be healthfully alternated and regulated.

I once heard a physician assert that the normal condition of an enterprising American was to be in debt. That debt was an incentive to exertion, a stimulus to work and to accumulate. I should be loth to accept such a proposition. But, that fixity of purpose, that the possession of some definite end and aim, and object for accomplishment, concentrates the energies, stimulates endeavor, develops and ennobles character, cannot be denied. I am not now advising the selection of specialties in medicine. Such selection should come only after some years of general practice, when the whole field has been more or less explored, when the experience has been enlarged in all directions, and the judgment matured. Then only can a proper selection be intelli-

:ently made; but meanwhile the tendency, if any exist, is to be noted .nd developed. Singleness of purpose and energy in its pursuit must :rown your efforts with success.

Do you need exemplars? You will find them in every avocation—and in none more frequently than in our loved profession. The great names of those who have gone before are embalmed in the very tissues of our bodies; they are found in the volumes which portray their laborious and painstaking investigations and discoveries; they are engraved upon the tablets of our hearts and in the material monuments which they have erected and endowed. You need no better exemplar of the beneficent result of fixity of purpose and energy in its pursuit than is found in the honored President of this College, who thirty years ago said, "I will build a college," and behold these substantial walls have risen in full fruition of this determination.

The world has seen its ages of iron and of gold, but though these metals are more abundant than ever before, this is rather an age of books. The rapid succession of their publication even upon individual branches of the science of medicine is appalling to the busy practitioner who can hope to read but a moiety of their number. Fortunately the great mass is but repetition, presented in different phraseology. In like manner medical magazines in the last thirty years have increased remarkably in number as well as in excellence. It is perhaps fortunate for the young physician, though he may not believe it at the time, that he is not harrassed in the earlier years of his practice by numerous patients, and can thus devote much time to study. Let me advise you not to be persuaded into discursive reading by a multiplicity of material. Choose a few magazines and standard works, and study them systematically. While it is most wise to read up on each case that presents itself for treatment, systematic reading in other directions is of vital importance. Do not attempt to cover too broad a field. You cannot hope to compass it all. There are few Admirable Crichtons. The story is told of a certain physician that his library consisted of one book—the United States Dispensatory—but his thoroughness of acquaintance with it was phenomenal.

I desire to utter a warning against the danger of habits, not of dissipation or of idleness, or other personal habits (some of which are often the bane of physicians, and which without care they may readily contract), but habits of practice. It is true that much of ordinary practice is routine work, but without thought and reading, the groove will widen to include all. Avoid all hobbies. If by chance you should get astride of one do not ride it to death. Choose neither extreme—the orthodox or conservative, the radical or fanciful. The former is often antequated; the latter dangerous and uncertain. Do not discard the old because it is old, but because a better is presented. Do not adopt the new for

novelty's sake. The history of drugs in this respect is a curious and instructive one. Time and again some new medicament has sprung into reputation like a brilliant meteor, and has disappeared almost as suddenly; or like a great comet has for a brief period filled the world with its glory, but like the fixed stars of the firmament our opium and mercury and quinine remain forever. Of the vast number of new remedies that have been introduced even in my short day I can recall comparatively few which have met the hopes of their advocates, or have found an abiding place in our materia medica. Be alert and progressive. The world does not remain stationary. If you stand still you will soon be left behind, and your opportunity be lost forever.

Cultivate habits of observation; they are essential in the determination of disease. In my childhood I was much impressed with a story called "Eyes and No Eyes." Two boys took a lengthy walk. One returned tired and spiritless. He had seen nothing but some fields and trees and a dusty road. The other recounted with enthusiasm the many beauties and industries of nature that he had witnessed. It would be an herculean task to enumerate the many directions in which observation might be profitably extended. Preventive medicine is more and more largely attracting the attention of the scientific world. If there be truth in the old adage that an ounce of prevention is worth a pound of cure, then should it receive more consideration than the treatment of disease. The special subjects of Hygiene, Sanitation, Quarantine, Epidemics, Endemics, Meteorology, and many others will deserve your careful investigation.

The physician stands in peculiar relation to the public and to the family. To both his duties are grave and responsible. The community looks to him for advice and counsel toward the averting of epidemics, the improvement of sanitary methods, and in hygienic matters generally; and in these directions his knowledge and experience should be freely and willingly given for the general welfare. In the family the physician is more than simply the adviser in sickness. His coming is often the one ray of sunshine to enliven and to cheer. He is expected to quiet the fears of the anxious; to encourage the weak and despondent, and be patient with the querulous and complaining. He must be the comforter of the afflicted and sorrowing; the counsellor of the wayward; the confidant of the erring. His high office combines those of minister and parent, friend and guide. Constantly the recipient, from weak and erring human nature, of confidences which both morality and law instruct shall be held inviolate, his is the power to recall many a false step, to redeem many an otherwise wasted life.

What should be the character of one worthy of this exalted position? Above all it should be moral, honest, manly. Charity, patience, cheerfulness, and firmness should exist in wholesome combination. It should

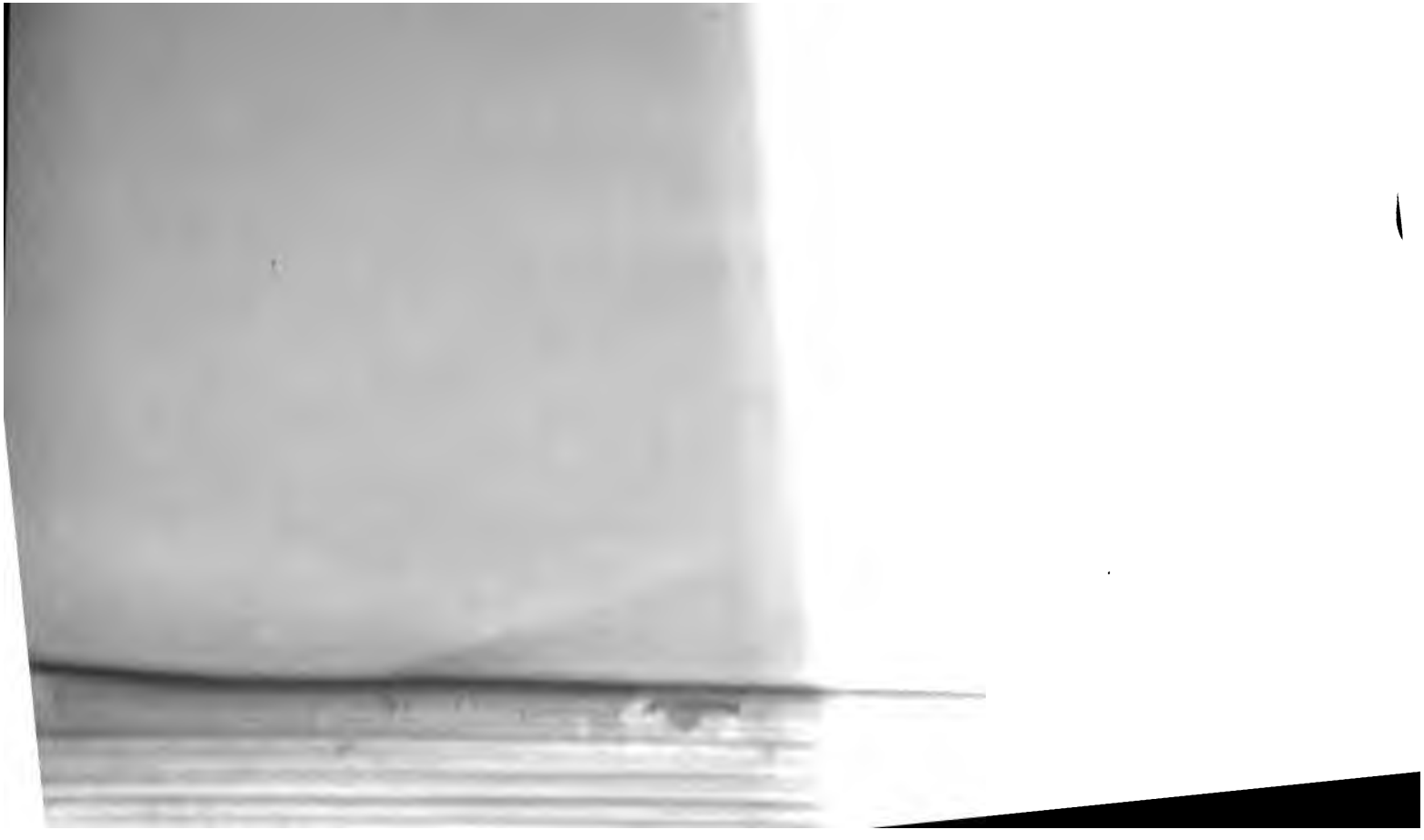
be sympathetic, but not weak, for weakness impairs the judgment; willing to admit mistake, but never vacillating, for vacillation destroys confidence; firm and positive, but not dogmatic; courageous when danger appals, but never rash, remembering that true courage comes from fulness of knowledge.

In a recent address upon a similar occasion to the present, and of which I have seen but the following extract, the Hon. Thomas F. Bayard said: "It has been my fortune to be thrown in contact with not a few medical men who have been as the 'salt of the earth' in their respective communities. A man who is already eminent by reason of his natural endowments, may be said to double his talent by becoming a physician. It has been my personal fortune to know such a man. It has been my privilege and delight to accompany him in visits where his only medicines were the personal presence and conversation of the man himself. He had shared and had lessened their anxieties; counselled the wayward; cheered the weak-hearted; had rejoiced with them that rejoiced, and wept with the weeping. And I have seen such a man, so surrounded by an atmosphere of love and trust, holding, as it were, the heartstrings of a family in his hands, their guide, philosopher, and friend; and then I realized what a moral force in society the profession, properly comprehended and properly followed, was capable of exerting; and how relatively small a part of its usefulness was the administration of medicine."

We may not attain this high ideal. We may even fall far short of the excellence it indicates, but though we reach it not we can approach it more or less completely if we but accept the advice of Pollonius to his son:

> "This above all: To thine own self be true,
> And it must follow as the night the day
> Thou canst not then be false to any man."

920 Polk street.



AN ADDRESS

ered at the Opening of Lane Hospital, January 2, 1895.

BY

LEVI C. LANE, M. D.,

San Francisco, Cal.

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LANE HOSPITAL.

On January 2, 1895, Lane Hospital was formally opened for the reception and treatment of patients. The event was commemorated by an address, which appears elsewhere, and also by the performance of a surgical operation as the inaugural act in the opening of this institution. By this effusion of blood, analogous to the act of the ancient augur, and in the character of his address, the donor has conformed to the custom of antiquity, to the models and literature of which he has a reverent attachment.

It was originally intended that the institution should bear the name of PAULINE LANE HOSPITAL; in fact, for some months this name stood traced on the block of granite, which now spans the vestibule of the building. This honor, it is clear, would not have been inappropriately bestowed, when it is stated, that nearly all of the excellence to be found in the interior arrangement of the building is due to the care and watchful supervision of this lady; a task which has continued during the last three years. With renunciation of any claim to which her services individually entitled her, MRS. LANE has preferred that the hospital bear the name which is mutually shared by herself and husband.

The hospital is situated at the corner of Clay and Webster streets; it has a front of 140 feet and a depth of 130 feet; it is adjacent to Cooper Medical College, and has been erected by DR. LANE at a cost of $160,000, and presented to the corporation of Cooper Medical College. The aggregate of the gifts of lands and buildings presented to the College by DR. LANE amounts to nearly a half million of dollars.

It should be stated that the land on which the hospital is built, was purchased at a cost of $28,000 by CAPTAIN JAMES M. MCDONALD, and presented to the corporation as a site for the hospital. This generous benefactor has also given $25,000 for the further support of the hospital. COL. CLAUS SPRECKELS has also given $25,000 for the same purpose. MR. ANDREW B. MCCREERY has given $6,000 for the maintenance of a bed in the hospital. The Faculty of Cooper College have donated from their treasury $20,000 for furnishing and equipping the institution for its future work. For some time, fees will be charged for the admission of patients; it is,

however, expected that donations will finally reach such an amount, that the worthy poor can receive gratuitous attention.

The building is of brick, faced with granite; and a system of heating and ventilation, perfect in all its details, has been provided at great cost. Besides the arrangements for ventilation, purity of air is further insured by the position of the kitchen, which is placed in the upper part of the building, on a story above all the patients. There are one hundred beds for patients, for each of which provision has been made for a space of air ranging from 1,700 to 2,000 cubic feet.

The medical and surgical service will be rendered by the Faculty of Cooper Medical College; yet the hospital will be open to all regular physicians, who may desire to place and to attend their patients there. Physicians sending patients to the hospital will be permitted to charge such fees as may have been agreed upon between them and their patients.

With the advantages and facilities, which are here hastily and briefly enumerated, there is no doubt, that for Lane Hospital there is a successful future; and that in this case, as in that of Cooper College, the founder and donors' hopes will be abundantly realized. —OCCIDENTAL MEDICAL TIMES, January, 1895.

AN ADDRESS.

Delivered at the Opening of Lane Hospital, January 2, 1895.

By LEVI C. LANE, M. D., Professor of Surgery, Cooper Medical College, San Francisco, Cal.

The ancient Roman and the ancient Greek when on the eve of an important undertaking, began the work by the consultation of an oracle and by the effusion of blood on the altar: a sacrifice that was made to conciliate the Genius of good Fortune. Sometimes in place of the rude and repulsive act of the burnt offering, there was substituted some other rite of more agreeable nature. This was often an address, in which, for the urgent prosecution of the proposed undertaking and for animating inspiration of its actors, the speaker marshaled in the brilliant periods of sublime eloquence the great and admirable examples of the past.

Greek literature, which, through its innate excellence, has outlived the destructive agencies of time, fashion, change and revolution, contains some of the best examples of such eloquence. The

resses of Isocrates, stimulating to noble action, remain as imperible parts of Grecian literature, in the same marked and promiit outline, as in the Athenian landscape stands forth the Acropolis wned with the temple of Theseus and the immaculate Parthenon, nat could more deeply fire the heart and urge on to determined ion than the words of Isocrates addressed to the Lacedæmonians, ien he exclaims: "Think how illustrious it is to exchange this ortal and fragile body for deathless renown; and with the few ars of life which yet remain to us to purchase that celebrity which ill endure through the ages."

In opening the way for peace, after a long period of domestic strife id civil war, what could touch the Roman heart more deeply than ie last words of Otho, who to win the contest was on the eve of acrificing himself, when he said: "I want neither revenge nor comiseration; some may have held the empire longer, but it will be aid of no one that he has left it with more courage; let this struggle depart with me; even as though you had perished for me, but e ye still survivors." These words of self-renunciation, it may be remarked in passing, have found occasional illustration in the patriot who died before the eyes of the world, and quite as often have they found illustration in the physician who died in the camp of disease, not only unseen, but diligently forsaken by the world.

The Roman consul celebrated his entrance into office by a studied oration. A remarkable oration of this kind is that of Pliny the younger, which is devoted in the main to a panegyric of the character and prominent events in the life of Trajan, then emperor of Rome. In this address, efflorescent with painted phrase, the martial exploits of the Roman chieftain are extolled; the subjugation of nations and the extension of Roman power are portrayed by a partial pen. The character of Trajan, as delineated by his eulogist, besides furnishing to the soldier constant incentive to courage and action, reveals, also, an element which delights the son of medicine, as shown in Trajan's care for the sick and wounded. "O, Trajan, what comfort didst thou bring to the weary and what assistance to the sick! It was thy custom to never enter thy tent until thou hadst visited and surveyed those of thy fellow soldiers'; nor didst thou ever rest until all others had been provided for." And a Greek historian says that Trajan actually treated the wounded, and that when material for dressings was exhausted, he took off his own clothing and cut it into bandages.

The foregoing citations from the annals of antiquity show that the ancients, in entering on an important enterprise, as war against

an enemy, or other matter of public moment, inaugurated the undertaking by an address in a public assemblage. In these orations the civilian, the statesman and the soldier find stirring incentive to action; and the physician finds in them ample instruction for his work of self-sacrifice; yet, in his work as minister for the relief of pain, he seeks in vain there for instruction, guidance and encouraging inspiration. Patience, endurance, tireless action, unsparing retribution for wrong done and contest to victory or death were the doctrines of the bard, seer and orator of olden times. The epitome of character, which commanded the greatest admiration when Rome ruled the world, is contained in the line, *Impiger, iracundus, inexorabilis, acer*, which anglicized is "Tireless, wrathful, inexorable, harsh." Excepting the quality of tireless, how remote are these characteristics from those of him whose mission it is to alleviate the sick and afflicted; for the patience, mercy and compassion of the physician have no place in the harsh picture of the model soldier depicted in the Horatian line.

In strong contrast with these barbarous traits, are those which the physician should have, as one learns from the counsel which Hippocrates gives the medical man when he enters the sick man's chamber. "On entering his room be careful in your manner of sitting; be reserved; appear in proper attire; be serious, and use brevity in speech; have cool self-command, which cannot be disturbed; be diligent and industrious in the presence of the patient; use care; if the patient objects to what is being done for him, listen to him and answer his objections properly; never lose your self-possession in the presence of an unexpected act or contingency; be prompt to meet and repress any disturbing emergency; always have a good will to do that which is to be done. And above all things, remember that nothing is to be omitted that can be of benefit to the patient." And further, the physician is to act with calmness and address, and infuse into the patient serenity and cheerfulness. Sometimes the patient should be reproved with firmness and severity; and at another time he should be consoled by kindness and careful attention.

These precepts, and the character which the physician should have as indicated by them, though many centuries old, embrace, in the main, the characteristics which the medical men of to-day should have. Summarized, these traits are a love of work, patient attention to details, ability to control one's self, as well as the whims and freaks of the patient, an exhaustless fund of the sunlight of cheerfulness to dissipate the clouds of melancholy which often surround the patient, and a flexibility to meet and provide for exigency and emergency.

Hippocrates says that medical art consists of, or is concerned with ree things, viz: the patient, his malady, and the physician. And -day, if our art be thoughtfully studied, these things are its prime mponents. Each patient is an isolated entity, and though he is kin to others, yet he has his own distinctive individuality—individ- ality which is shapen by his physique, his mentality, his habits, and is heredity. Each of these is to be a matter of study, and must be aken fully into account in the successful accomplishment of medical rt. The disease also, though akin to others and susceptible of being grouped with them in a common class, has a special character of its own which marks it off from the members of its own kindred. These individual differences are so great that not unfrequently they confuse and mislead him whose powers of discrimination have not been trained and perfected by experience. The third constituent mentioned is the physician himself, into whose charge the sick man is committed, and whose province it is to study the patient and his disease. That medical art may have its highest and best accomplishment this third element must have the highest endowments which a theoretical, didactical, and practical training can impart.

When the physician is thus moulded and informed, or as the logician would say, is fully formed in extension and intention, then medical art will reach that excellence by which it was illustrated in the character of a Sydenham, a Frerichs, a Trousseau, or now is seen in an Osler. In the institution of which we are opening the doors to the sick world, to-day, I permit myself to hope and predict that some names equal in greatness to those mentioned will appear and give to the healing art its noblest consummation. As further guidance for the best care of the sick, Hippocrates says that the physician should have as his aids students of medicine. Such student should be placed as a watch over the patient, and directed to see that the latter does not take his medicine at improper hours; and thus watched the medicine will accomplish its purpose. The student should already possess some knowledge of the action of remedies; knowledge which will enable him to meet an emergency which may supervene during the absence of his superior. The student should also be entrusted with the nourishment of the patient, and should see that this is taken in proper amounts and at proper times. The student must also note everything that occurs, and report the same to the physician, so that the latter may be ignorant of nothing that is transpiring. Nothing should be committed to attendants who are ignorant of such duty. The care of the sick should be carried out attentively and knowingly; thus done, no blame will attach to ill

success; and if the issue be fortunate, the event will be crowned with honor.

Thus far the art of medicine, or that which is contingent to it, has mainly been considered; but medicine has another important domain, and that is its science. Medical art is chiefly concerned with the cure of disease; instruments, apparatus, medicines, and all curative agencies. On the other hand, medical science searches for the cause of disease; it studies the abnormal combination of normal cells; the appearance of the latter at unusual times and unusual places. And to do this work well, this science must know equally well the tissues both in their sound and unsound states. In its development this science has proceeded by the pathway of analysis. Thus Bichat studying the structures by dissection found that they can be reduced again to a few simple membranes and tissues. These tissues are resolvable into cells of various forms and diverse groupings. This was believed to be the inmost recess of life into which the fiend of disease, unseen and of unknown form, penetrated and threw confusion into the beauteous arrangement which these cells have in health. Science, with tireless foot and unsleeping eye, has pursued this fiend of disease and detected him in the infinitely minute form of the pathogenetic microphyte.

For centuries this infinitesimal agent in the diseased organism ran riot, unseen, unsuspected, unknown. But science grasped a little beam of light, bent this into a key which opened this chamber in which the germ of disease has hidden himself, and solved the enigma. This solution has given immortality to the name of Robert Koch. Koch, like Columbus, has discovered a new world. This new world, like our own America four centuries ago, has opened a boundless field of undeveloped resources in which medical science and medical art may labor side by side. Here science is discovering and indicating the means by which human disease may be cured, and, what is yet more important, the way is thus being learned by which menacing disease may be averted. The researches of medical science are now promising the human race immunity against many diseases. In this field scores of diligent hands are at work, and from what has already been done there is promise of discoveries which will greatly change the methods of the practice of medicine. It is probable that we will inoculate against and prevent, or render mild and harmless, all contagious and infectious diseases.

The Latin language was a rich store-house, from which we have borrowed many words. The English, opulent in words of concrete nature, and forcibly expressive as far as the things of material nature

are concerned, in its early growth, had few words of abstract character; and among the many which it derived from the Roman tongue, one which especially interests us here, is "immunity." In the Latin we find the word "immunitas," which meant an exemption from duties, taxes, and other obligations; it was limited to this meaning among the Romans; and also with us it had no wider range of significance until the last few years. How little did the Roman dream when he was coining this word that, in its transit from tongue to tongue, it would pass to remote centuries and would then represent the method by which man would elude the grasp of the great taxer—Disease, and stay the entrance of his still greater enemy—Death.

The wards in this hospital in which the sick and afflicted will seek for relief will furnish countless opportunities for the solution of these great problems which remain yet unsolved, or for the further verification of what is yet but partially verified. And in this scientific work nothing will contribute more to successful result than painstaking accuracy; there must be accuracy in observing morbid phenomena, and accurate record made of them; and at length from such a fund of facts truthful deductions can be drawn. Such a stony, tiresome path was long trodden by Koch and Pasteur before they received their crowns from the Genius of discovery.

An error sometimes committed by the scientific explorer is, that he often mistakes the unreal for the real; and impelled by his desire for renown, he announces a discovery, which subsequent investigation disproves. An example of this was Richardson's announcement of the cause of the coagulation of the blood. Richardson received a prize for what yet remains to be solved. A better example to follow is that of Edward Jenner, who withheld from the world his discovery of vaccination for nearly seventeen years; it was only after proof and counter-proof, and repeated verification that he ventured to announce it. It is sincerely to be hoped that nothing will be announced as discovered within these walls, which has not thus been proven and incontrovertibly established.

Among the duties of the interne, an important one is to make a careful record of the cases treated here. Such record does two things; the chief one is, that it insures careful work; for thus the work is committed to the pages of history, where it will be legible to many eyes. He will work the best and with the fewest faults, who knows that each act will be delivered to open, unchanging record. A second purpose of such record is, that it gathers facts, which become an addition to the general fund of medical knowledge.

The record kept may be brief, or it may be in elaborate detail. If the cases be those of usual occurrence, containing only what has often been observed, then the history made of them should be brief; and such record in epitomized form becomes a magazine, whence facts can be taken and tabulated into statistical computation. Many modern writers decry statistics, to my mind very wrongly; since the statistical is the equivalent of the inductive method of reasoning, which can be compared to a ladder of which each round is a fact similar to its fellows, and by the aid of which one ascends to a general truth. If error mar the conclusion, this can always be traced to, and found in the faulty observation and inaccurate record; or it may be in the improper grouping of the facts.

A few cases will present themselves of unusual or remarkable character; of such the history should be recorded in diffuse and elaborate detail. Such misnomers are not classifiable, and hence, are of no aid to the statistician; but they are important to the medical man, since they teach him the weighty lesson that new problems in pathology may arise at any hour, which will require new and unused principles for their satisfactory solution. In such cases the physician will proceed most wisely, if he follow the precept of Celsus, to compare such anomalous disease with other known forms, and to adopt for its management the treatment proper for the one to which it conforms nearest in character.

The purpose which has inspired the erection of Lane Hospital is two-fold in character; one great object is to furnish the medical student the opportunity of pursuing his studies to the greatest possible advantage, and of fully fitting himself for his future vocation. It is intended that he see medical and surgical art practised with that excellence, which will serve him as future model for guidance and imitation. A second object is, that the sick who seek this retreat for alleviation of their sufferings, will here find the best of skill and service, which can be planned by thoughtful intellect, and inspired by earnest sympathy. If, as has been stated, superiority of work will be promoted by the fact that the act of each physician and surgeon will pass into unmistakable and lasting record, so much more will it be insured by the presence of a medical class, which transcending the Argus of Juno is both many-eyed and many-eared in its guardian service. With such provisions and precautions, one finds a ready explanation of the fact, which has been observed, that the mortality of hospitals, which are under the charge of collegiate medical service, is less than that which is not supervised by such management.

If thoughtful care, vigilant attention, and trained skill be needed for the cure of the sick man, they are not all, and they will be sadly defective if they are not reinforced by another great quality—sympathy. Sympathy, like the quality Mercy, "is twice blessed: it blesses him that gives and him that takes." Sympathy is planted in every human breast, and like every natural virtue, it may grow and become the prominent characteristic of the individual; or it may be dwarfed, and in certain conditions this precious quality may be almost or quite extinguished. These conditions, I have observed, are constant contact with suffering, and is often best seen in the medical attendant, either physician or nurse, who has become exhausted from long continued and anxious work; in fact, unfitted for duty. I often recall what was said to me once by a lady, who for months was overburdened and worn by attention to an invalid parent: "It is my daily prayer that I may not become impatient and falter in my duty to my mother." Sympathetic care goes far in the cure of a patient. A harsh word, a petulant answer, or a frown in reply to some question or request of the patient, cuts more keenly than the surgeon's knife; and such petulance and impatience may fatally reinforce a lingering disease.

Briefly summed up, then, the cardinal qualities necessary for the successful management of our hospital, are good heads, good hearts, and willing hands; a determination on the part of each attendant to do superior work, and a fixed resolve to live and labor in harmony with his fellow workmen. All thus doing their duty, the work done will represent a picture, in which is portrayed a legion of busy laborers bearing a standard, inscribed with the words: *Self-sacrifice and Humanity;* and such a picture will realize the donor's hope, chiseled in marble at the threshold of this edifice, that the Healing Art may here be given an opportunity for the exercise of its humane skill, and that suffering Humanity may here find refuge and relief from its afflictions.